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INSTITUTE FOR GOVERNMENT RESEARCH

SERVICE MONOGRAPHS
OF THE
UNITED STATES GOVERNMENT
No. 53

THE
BUREAU OF THE CENSUS
ITS HISTORY, ACTIVITIES
AND ORGANIZATION

BY
W. STULL HOLT



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FOREWORD

The first essential to efficient administration of any enterprise is full knowledge of its present make-up and operation. Without full and complete information before them, as to existing organization, personnel, plant, and methods of operation and control, neither legislators nor administrators can properly perform their functions.

The greater the work, the more varied the activities engaged in, and the more complex the organization employed, the more imperative becomes the necessity that this information shall be available—and available in such a form that it can readily be utilized.

Of all undertakings, none in the United States, and few, if any, in the world, approach in magnitude, complexity, and importance that of the national government of the United States. As President Taft expressed it in his messages to Congress of January 17, 1912, in referring to the inquiry being made under his direction into the efficiency and economy of the methods of prosecuting public business, the activities of the national government “are almost as varied as those of the entire business world. The operations of the government affect the interest of every person living within the jurisdiction of the United States. Its organization embraces stations and centers of work located in every city and in many local subdivisions of the country. Its gross expenditures amount to billions annually. Including the personnel of the military and naval establishments, more than half a million persons are required to do the work imposed by law upon the executive branch of the government.

“This vast organization has never been studied in detail as one piece of administrative mechanism. Never have the foundations been laid for a thorough consideration of the relations of all of its parts. No comprehensive effort has been made to list its multifarious activities or to group them in such a way as to present a clear picture of what the government is doing. Never has a complete description been given of the agencies through which these activi-

ties are performed. At no time has the attempt been made to study all of these activities and agencies with a view to the assignment of each activity to the agency best fitted for its performance, to the avoidance of duplication of plant and work, to the integration of all administrative agencies of the government, so far as may be practicable, into a unified organization for the most effective and economical dispatch of public business."

To lay the basis for such a comprehensive study of the organization and operations of the national government as President Taft outlined, the Institute for Government Research has undertaken the preparation of a series of monographs, of which the present study is one, giving a detailed description of each of the fifty or more distinct services of the government. These studies are being vigorously prosecuted, and it is hoped that all services of the government will be covered in a comparatively brief space of time. Thereafter, revisions of the monographs will be made from time to time as need arises, to the end that they may, as far as practicable represent current conditions.

These monographs are all prepared according to a uniform plan. They give: first, the history of the establishment and development of the service; second, its functions, described not in general terms, but by detailing its specific activities; third, its organization for the handling of these activities; fourth, the character of its plant; fifth, a compilation of, or reference to, the laws and regulations governing its operations; sixth, financial statements showing its appropriations, expenditures and other data for a period of years; and finally, a full bibliography of the sources of information, official and private, bearing on the service and its operations.

In the preparation of these monographs the Institute has kept steadily in mind the aim to produce documents that will be of direct value and assistance in the administration of public affairs. To executive officials they offer valuable tools of administration. Through them, such officers can, with a minimum of effort, inform themselves regarding the details, not only of their own services, but of others with whose facilities, activities, and methods it is desirable that they should be familiar. Under present conditions services frequently engage in activities in ignorance of the fact that the work projected has already been done, or is in process of execution by other services. Many cases exist where one service could

make effective use of the organization, plant or results of other services had they knowledge that such facilities were in existence. With the constant shifting of directing personnel that takes place in the administration branch of the national government, the existence of means by which incoming officials may thus readily secure information regarding their own and other services is a matter of great importance.

To members of Congress the monograph should prove of no less value. At present these officials are called upon to legislate and appropriate money for services concerning whose needs and real problems they can secure but imperfect information. That the possession by each member of a set of monographs such as is here projected, prepared according to a uniform plan, will be a great aid to intelligent legislation and appropriation of funds can hardly be questioned.

To the public, finally, these monographs will give that knowledge of the organization and operations of their government which must be had if an enlightened public opinion is to be brought to bear upon the conduct of governmental affairs.

These studies are wholly descriptive in character. No attempt is made in them to subject the conditions described to criticism, nor to indicate features in respect to which changes might with advantage be made. Upon administrators themselves falls responsibility for making or proposing changes which will result in the improvement of methods of administration. The primary aim of outside agencies should be to emphasize this responsibility and facilitate its fulfillment.

While the monographs thus make no direct recommendations for improvement, they cannot fail greatly to stimulate efforts in that direction. Prepared as they are according to a uniform plan, and setting forth as they do the activities, plant, organization, personnel and laws governing the several services of the government, they will automatically, as it were, reveal, for example, the extent to which work in the same field is being performed by different services, and thus furnish the information that is essential to a consideration of the great question of the better distribution and coördination of activities among the several departments, establishments, and bureaus, and the elimination of duplication of plant, organization and work. Through them it will also be possible to

subject any particular feature of the administrative work of the government to exhaustive study, to determine, for example, what facilities, in the way of laboratories and other plant and equipment, exist for the prosecution of any line of work and where those facilities are located; or what work is being done in any field of administration or research, such as the promotion, protection and regulation of the maritime interests of the country, the planning and execution of works of an engineering character, or the collection, compilation and publication of statistical data, or what differences of practice prevail in respect to organization, classification, appointment, and promotion of personnel.

To recapitulate, the monographs will serve the double purpose of furnishing an essential tool for efficient legislation, administration and popular control, and of laying the basis for critical and constructive work on the part of those upon whom responsibility for such work primarily rests.

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THE BUREAU OF THE CENSUS

ITS HISTORY, ACTIVITIES AND ORGANIZATION

CHAPTER I

HISTORY

The Bureau of the Census was established in 1902 as a permanent bureau in the Department of the Interior. In the following year it was transferred to the newly created Department of Commerce and Labor, and when, in 1913, the Department of Labor was made a separate unit, the Bureau remained in the Department of Commerce. Although from its beginning as a permanent establishment the Bureau has collected and compiled statistics on a wide variety of subjects, its most important work, and that with which the general public is most familiar, is the decennial count of population.

In the long period prior to 1902, when taking the decennial census constituted its sole duty, the Bureau of the Census had a unique history among the administrative services of the government. Under various names the organization, "rising phoenix-like every ten years from the ashes of an earlier decade," enjoyed brief interludes of intense activity.¹ During several of the intervals of inactivity the Bureau continued an uncertain existence in the persons of one or two individuals, who carried on the census work while nominally employed by other administrative services of the government. Such instances, however, were exceptional and the more usual practice was to stop all work in the inter-censal periods and to disband the organization completely.

The Census of 1790. Several of the governments in Europe had taken counts of their populations before 1790, but the United States has the distinction of being the first in modern times to provide for the periodical enumeration of the people within its

¹ Julius H. Parmelee, *The Statistical Work of the Federal Government*, *Yale Review*, November, 1910, p. 292.

borders.² This wise decision did not come from an appreciation of the importance to the country or the social significance of statistical data of this nature, but it resulted from one of the great political compromises that enabled the constitutional convention to end successfully. The solution adopted was that the states should have equal representation in the Senate, while "Representatives and direct taxes shall be apportioned among the several states which may be included within this Union, according to their respective numbers, . . . The actual enumeration shall be made within three years after the first meeting of the Congress of the United States, and within every subsequent term of ten years, in such manner as they shall by law direct."

Thus, Congress had to decide what information, if any, in addition to the bare enumeration required by the Constitution, should be collected, when and how the count should be taken, and what administrative machinery should be provided to do the work. Its answers to these questions were given in the act of March 1, 1790, which is important not only as the first of its kind ever passed but also as the basic law, which with relatively minor changes governed the taking of each census until that of 1850. This law (1 Stat. L., 101) provided that the marshals of the judicial districts of the United States, which coincided with state lines, were to take the number of inhabitants of their districts, employing for that purpose as many assistants as were necessary.

The directions contained in the act, and there is no evidence that any others were given, were neither extensive nor complicated. The census was to begin on the first Monday in August and was to be finished within nine months. Persons were to be counted at their usual place of abode, and those having no settled place of residence were to be counted as belonging to the place where they happened to be on the first Monday in August. In prescribing the information that the marshals were to collect, Congress exceeded

² The most valuable work on the history of census taking in the United States through the census of 1890, and that which has guided the following account is "The History and Growth of the United States Census" by Carroll D. Wright and William C. Hunt. This congressional document (S. doc. 194, 56 Cong. 1 sess.) includes among other important data all the schedules used and the instructions issued as far as the census of 1900. It is generally understood that this book was practically, if not entirely, written by Mr. Hunt, then and for many years afterward chief statistician for population in the Bureau of the Census.

the constitutional requirements, which would have been met by a return of the number of free persons and the number of slaves, and provided a schedule to show: (1) The names of heads of families; (2) the number of free white males of 16 years and upwards, including heads of families; (3) the number of free white males under 16 years of age; (4) the number of free white females, including heads of families; (5) the number of all other free persons; and (6) the number of slaves.

Copies of the returns containing this information were to be posted by each assistant at two of the most public places within his division, to afford an opportunity for inspection by the public. They were then to be transmitted to the marshals, who were to file them with the clerks of their respective district courts and, not later than September, 1791, to send to the President of the United States the aggregate number of persons of each description.

The compensation fixed by the law for the assistants was to be at the rate of one dollar for every three hundred persons in cities and towns containing more than five thousand inhabitants and at the rate of one dollar for every 150 persons in country districts, except in thinly settled sections where the marshals, subject to the approval of the judges of their respective districts, could increase the rates to a maximum of one dollar for every fifty persons. The marshals, themselves, were to receive for this extra work thrust upon them, sums varying from one hundred dollars in the district of Delaware to five hundred dollars in the district of Virginia.

The oath required of the marshals and their assistants was not the only means adopted to secure accurate returns. An assistant failing to make a return or making a false return of the enumeration was to forfeit two hundred dollars. A marshal similarly derelict in his duty was to forfeit eight hundred dollars for each offence, the forfeiture being recoverable in the court of the district where the offence was committed, half of the amount going to the informer and half to the United States. To facilitate the discovery of any offences the law directed the district judges to lay the census returns before the grand juries in their courts. A penalty of twenty dollars was placed on anyone over sixteen years of age who should refuse to render a true account of all persons belonging to his family.

This simple machinery was all that was provided, although more was necessary before the first census could be completed. By one law the provisions of the census law were extended to Rhode Island, which had not ratified the Constitution when the act was passed; by another they were extended to the newly admitted state of Vermont; and by another the time for the completion of the census in South Carolina was extended.³

The result of the census, showing a total population of 3,929,214, was made known in 1791 in a publication of fifty-six pages. A statement of the total population by states, prepared in the office of the Secretary of State, followed by the summary tables received from the marshals and including a statement of the population of the Southwest Territory made by its governor, constituted the entire contents of the pamphlet. The returns were printed exactly as they were received from the marshals, without any attempt to correct them or to make them uniform. For some states, including New Hampshire, Vermont, Massachusetts, Rhode Island, and New York, the populations of cities and towns as well as of counties, were given, while for the others, only those of a few of the larger cities were stated. The marshal for the district of Massachusetts added some unrequested information to his returns by giving the number of dwelling houses and families in each city and town covered by his report; the marshal for New York reported the excess of males or females in the cities or towns within his territory; and in Pennsylvania the enumerators for Philadelphia gave the occupations of the heads of families in their returns. The nature of the returns tends to confirm the opinion that the marshals were not guided by any one directing agency, but carried out the provisions of the law as they individually thought best. Whether, as is frequently supposed, the President, or the Secretary of State, transmitted copies of the law, and possibly instructions also, to the marshals, is an unsettled question. There is no record of any correspondence on that subject, and there is evidence that at least some of the governors of the states supervised and instructed the marshals in taking the census within their states.⁴

³ 1 Stat. L., 129; 197; and 226.

⁴ William R. Merriam, *The Evolution of American Census-Taking*, *Century Magazine*, LXV, 832 (April, 1903). This point is also discussed in the best account of the first census, William S. Rossiter, *A Century of Population Growth*, Chap. 3. Published by the Bureau of the Census in 1909.

The Census of 1800. Before the legislation providing for the Second Census was passed two learned societies memorialized Congress in an attempt to broaden the field of the census beyond a mere enumeration of population. The memorials, one from the American Philosophical Society, signed by Thomas Jefferson as president, and the other from the Connecticut Academy of Arts and Sciences, bearing the signature of its president, Timothy Dwight, were similar in character. The principal requests were that the population be divided into numerous age groups; that the number of natives, citizens of foreign birth, and aliens be shown; and that the number of persons in each occupation should be given.⁶ Apparently these petitions were too far in advance of their time, for they had little influence on the law governing the taking of the census of 1800, which only slightly added to the amount of information to be collected (2 Stat. L., 11). The new schedule provided a column for the name of the county, parish, town, or city where the family resided, and extended the age distribution of the free white population. The former census had not given any analysis by age of the female population and had divided the free white males only into those over and under 16 years of age. The new census law required the numbers of each sex under 10 years of age from 10 to 16, from 16 to 26, from 26 to 45, and from 45 upwards.

A few deviations were made from the provisions of the former law relating to the manner of taking the census, the most significant being that the entire administrative machinery was placed under the supervision of the Secretary of State. The marshals of the judicial districts and the secretaries of the territory northwest of the Ohio River and of the Mississippi Territory were ordered to take the census "under the direction of the Secretary of State, and according to such instructions as he shall give," and the latter was specifically directed to issue regulations and instructions for carrying the act into effect "and also the forms contained therein of schedule to be returned, and proper interrogatories to be administered by the several persons, who shall be employed. . . ." Unimportant changes were made in the compensation of the assistants, the new rates being one dollar for every hundred persons in country districts, instead of 150 persons, and one dollar for every

⁶ The memorials are printed in full in 41 Cong. 2d sess., H. rep. 3, pp. 35-36.

three hundred persons in cities and towns having more than three thousand persons instead of five thousand as in 1790.

In other respects the Second Census was to be like the first, beginning on August first and closing in nine months. The returns, the correctness of which was protected by the penalties for false statements and by the oaths required of the assistants, the marshals, and the secretaries of the territories, were to be turned over to the clerks of the courts, and the number of persons in each of the descriptive classes required by the law was to be sent by the marshals and secretaries to the Secretary of State not later than the first of September of the following year.

The results of the enumeration taken under these provisions were printed in 1801 in a volume of seventy-four pages. Again, the only addition made by the administrative officials at the seat of government to the reports sent in by the marshals was a summary table showing the entire population by states. The reports of the marshals from the northern and eastern districts gave the number and description of persons in counties, cities, and towns, while those from the southern districts showed the population by counties, with only an occasional reference to minor civil divisions. The signatures of the marshals reveal the fact that some of them had held that office when the previous census was taken.

The Census of 1810. The census of 1810 followed closely the previous models, but with some variations not so important in themselves as they were significant as illustrations of constant tendencies in the history of census taking in the United States. The chief of these innovations was an addition to the information to be collected, which extended the scope of the census to include more than population data. The war in Europe created great interest in manufacturing in the United States and a consequent desire for exact data on the subject, and for that purpose an amendment (2 Stat. L., 605) to the act providing for the Third Census made it the duty of the marshals, secretaries, and their assistants to take, under the direction of the Secretary of the Treasury and according to his instructions, "an account of the several manufacturing establishments and manufactures within their several districts, territories and divisions." This was the only change made in the content of the census, for the population sched-

ule remained exactly the same as it had been in 1800 (2 Stat. L., 564).

No radical change was made in the administrative methods followed in the population census, though some difficulty was experienced because the field force had to make this inquiry under the direction of one Secretary and that relating to manufactures under another. A number of new provisions were added, however, in the hope of improving the work of the marshals and their assistants. By one it was ordered that the enumeration should be made "by an actual inquiry at every dwelling house, or of the head of every family within each district, and not otherwise." Another made legally necessary what had probably been done in former years anyway; namely, the marshals and secretaries were required to assign to each assistant a certain division of his district, consisting of not more than one county or city but including one or more towns, townships, wards, or parishes plainly and distinctly marked by natural or other boundaries. The first of the attempts that were to be repeated so frequently in later years to reduce the interval between the date of the beginning of the census and the announcement of the result was made by requiring the assistants to make their returns to the marshals and secretaries within five months (2 Stat. L., 570). This proved to be impracticable, and the time was afterward extended (2 Stat. L., 658).

The results of the count of population were published in 1811 in a volume of one hundred and eighty pages consisting, as in the two former instances, of the reports received from the marshals and secretaries and a table summarizing the totals. Again, there was a variation in the information returned, the population being shown in the northern districts, except New York, and in Ohio, Kentucky, and Georgia by counties and towns, while that in the southern districts was generally limited to counties only.

The census of manufactures was responsible for a further development of the census work of the government. The population returns had been printed exactly as they were received from the field force and had caused no work to the central administrative authorities at the seat of government except the preparation of one table showing the totals. Such a simple procedure was not feasible with the data relating to manufactures, and Congress directed the Secretary of the Treasury to employ a person to pre-

pare "a statement of the number, nature, extent, situation and value of the arts and manufactures of the United States, together with such other details, connected with these subjects, as can be made from the abstracts and other documents and returns" made by the marshals.

The man who was secured to begin the work of compiling, analyzing, and interpreting the census returns, which has become so characteristic of the work of the Bureau of the Census, was Tench Coxe, one of the most eminent statisticians of his generation. His task was a difficult one, for due to faulty administrative procedure the data supplied were imperfect and lacked uniformity. Apparently no schedule was used, but each marshal and secretary collected the detailed information in such a form as he deemed best.⁶ Consequently, when the report, a volume of 233 pages, was printed in 1813, it was of doubtful value; a fact clearly recognized by its compiler, who wrote in explanation that "Though many of the officers and assistants have performed this new and difficult service with much zeal and intelligence, yet various causes have concurred, to occasion, *numerous* and *very considerable* imperfections and omissions in returns from cities, towns, villages, townships, hundreds, counties, and, as to valuable articles and branches, from States, to be observable."⁷

The Census of 1820. The Fourth Census, taken in accordance with the provisions of the act of March 14, 1820 (3 Stat. L., 548), presented no new features of any importance either in the content of the schedules or in the administrative methods employed. The inquiries on population were increased so as to show for the first time the distribution of the free negroes and slaves into sex and age groups, the number of foreigners not naturalized, and the numbers of persons engaged in agriculture, commerce, and manufactures. A schedule of questions to be asked at each manufacturing establishment was sent to the marshals by the Secretary of State.⁸ These questions were designed to reveal the nature,

⁶ A list of the articles on which information was given in the printed report and the form in which the details were presented is included in Wright and Hunt, pp. 305-09.

⁷ Tench Coxe, *A Statement of the Arts and Manufactures of the United States of America*, etc., p. xxv.

⁸ Some of the correspondence with the marshals can be found in 17 Cong. 1 sess., H. doc. 4.

quantity, and value of the articles manufactured; the kind, quantity, and cost of the raw materials consumed; the numbers of men, women, boys, and girls employed; the quantity and kind of machinery employed; the amounts invested as capital, paid in wages, and paid for contingent expenses.

Administratively there were even fewer departures from the methods of the preceding census. The census of manufactures was transferred to the supervision of the Secretary of State, thus securing a desirable unity of administrative control. The assistants were required to subscribe to a second oath to the effect that the returns they submitted were ascertained by an actual inquiry at each house or of the head of each family. Again, an unsuccessful attempt was made to shorten the time for the enumeration, and new legislation extending the limit had to be passed (3 Stat. L., 643). The report on population, as previously, required no work in the Washington office except printing. The results were not even summarized by counties unless they happened to be in that form in the original returns. The report on manufactures, a volume of only one hundred pages, was compiled and digested by a special employee whom the Secretary of State was authorized to engage, and was admittedly inadequate, due to the incomplete and unsatisfactory returns made by the marshals.

The Census of 1830. The new features appearing in the Fifth Census illustrate, with one exception, the almost constant tendency to expand the content of the census and especially to centralize and strengthen the administrative machinery used in taking it. The one exception was the elimination of the census of manufactures. The results of the census of manufactures on both of the previous occasions had proven so unsatisfactory that no attempt was made in 1830 to collect data in that field. The population schedule contained several additional inquiries which showed finer analysis of both the white and colored population by age groups, the number of white and colored persons who were deaf and dumb, distributed in three age groups, and the number of white and colored persons who were blind. The date of the enumeration was changed from the first Monday in August to the first day of June (4 Stat. L., 383). This date continued to be used from 1830 to 1900.

There was a noticeable tightening up of the administrative machinery used in this enumeration. It was the first census for which

schedules were printed and distributed by the Secretary of State to the marshals for the use of their assistants. One copy of each schedule filled out was to be delivered to the clerk of the district court and another was to be transmitted to the Secretary of State, together with the totals compiled by the marshals. This procedure enabled the Secretary of State, in obedience to subsequent legislation (4 Stat. L., 440), "to note all the clerical errors in the returns of the marshals and assistants, whether in the additions, classification of inhabitants, or otherwise, and cause said notes to be printed with the aggregate returns, of the marshals, for the use of Congress." Thus for the first time the population returns were revised at Washington, forty-three clerks being temporarily employed for that work in the office of the Secretary of State.*

The rest of the changes affecting the taking of the census were of minor significance. The compensation for the assistants was increased slightly, a new provision in the law required each assistant to be a resident of the city or county in which he worked; and penalties were provided for marshals who might require or demand any assistant to split fees with them. Undeterred by the experience of the previous censuses Congress again attempted to shorten the period for the enumeration and at first required it to be complete within six months, but again it was found necessary to extend the time limit, which was fixed at twelve months for the assistants and fourteen months for the marshals.

The results of the census were printed in 1832 in a volume which included copies of the instructions and forms sent to the marshals by the Secretary of State and a statement of the population at the preceding censuses. The report was printed so badly that it was reprinted in a corrected form the same year and both issues were bound in one volume.

Another indication of the tendency toward a stronger administrative supervision manifested in this census was the order by Congress to the clerks of the district and territorial courts to transmit to the Secretary of State the original returns of the previous censuses, which had been placed in their care. This order, contained in legislation passed after the act providing for the Fifth Census, was probably intended to facilitate the use of the authority

* Wright and Hunt, p. 31.

granted by that act to the President to revise the statements of population previously made and to print an abstract of the correct totals in each state and territory at each decennial period. The revision was not carefully made, however, and the republication was valueless.¹⁰

The Census of 1840. The many humanitarian movements and the intense stimulation of social consciousness occurring in the decade after 1830 had direct and indirect consequences for the government. One result was that the census of 1840, the sixth to be taken, was the most ambitious attempt that had been made. The scope was expanded to embrace a wider variety of sociological and economic data on life in the United States, and greater efforts were made to strengthen and improve the administrative machinery used in collecting them. Nevertheless, it was poor administration more than any other factor that was responsible for the disappointing results.

The population schedule, in addition to the details regarding age, sex, and color requested in the previous census, carried questions to show the number of persons in each family employed in mining, agriculture, commerce, manufacture and trades, navigation of the ocean, or of canals, lakes, and rivers, and in the learned professions including engineering; the number and age of pensioners for revolutionary or military service; the number of insane persons and idiots at public and at private charge; the number of colleges, academies, and common schools, with the attendance of each; and the number of white persons over twenty years of age in each family who could not read and write.

The questions relating to schools were added to the population schedule as a consequence of a provision in the law which instructed the marshals to "collect and return in statistical tables, under proper heads, according to such forms as shall be furnished, all such information in relation to mines, agriculture, commerce, manufactures, and schools, as will exhibit a full view of the pursuits, industry, education and resources of the country." This extensive program showed how far progress had been made from the narrow conception of the census as a bare numerical count. The details to be collected in each of these fields were left to the Secretary of

¹⁰ *Ibid.*, p. 30.

State, under the direction of the President. One schedule was supplied by him with sections devoted to agriculture, manufactures, mines, fisheries, and commerce. The numerous questions relating generally to quantity and value were classified by products in each section.¹¹ The marshals did not return a schedule for each individual establishment, but made a combined return for their entire districts.

The increased interest in the census was manifested by the fact that the legislation providing for it was passed in March, 1839, fifteen months before the date of the count (5 Stat. L., 331). On all the previous occasions only a few months intervened between the passage of the legislation and the date of the census. The longer interval was conducive to better administration, as it permitted adequate plans to be made and especially gave the marshals plenty of time to divide their districts into divisions and to recruit better assistants. The marshals still had unlimited power in selecting their assistants, the only restriction being that each should be a resident of the division to which he was assigned. The pay of the assistants, of whom 2048 were appointed, was materially increased at this census.

The time for the completion of the work for both marshals and assistants was at first fixed at six months, but was extended several times until the limit for the field work was eighteen months, the longest time that any census so far had taken. As before, the Secretary of State was directed to note "all the clerical errors in the returns of the marshals and assistants, whether in the additions, classification of inhabitants or otherwise" and to print only the corrected figures (5 Stat. L., 368). To examine and correct the returns from the marshals, he was authorized to employ the necessary clerks, one of whom was designated by the law as superintending clerk. From this position, to which William A. Weaver was appointed, there has developed the office of Director of the Bureau of the Census.

Four publications resulted from the Sixth Census. One, a volume of 480 pages, contained the figures on population as corrected at the Department of State. The returns showed the population in the northern states by cities, towns, and other minor civil

¹¹ *Ibid.*, pp. 233, 309, 537, 606, 646.

divisions, with a summary by counties, and generally in the southern states by counties and a few other divisions. Another volume, of 410 pages, contained the statistics on manufactures, mining, agriculture, fisheries, and commerce. The third was a "Compendium of the enumeration of the inhabitants and statistics of the United States," which included abstracts of the results of the previous census. The last volume contained the results of the census of pensioners for Revolutionary or military service, giving their names, ages, places of residence, and the names of the heads of the families with whom they resided.

After the results of the census had appeared in print, a number of public protests against what were called its gross errors were made. The American Statistical Association, then in its infancy, began its long and beneficent contact with the census work by appointing a committee composed of Edward Jarvis, William Brigham, and J. W. Thornton to present a memorial to Congress on the errors of the census. This committee confined its investigations to the social statistics, which were the easiest to check, and was able to point out many errors, some of which were obvious; for example, the reports from many towns that all or as many as two-thirds of the colored population were insane. The memorial was referred to committees in both Houses of Congress, whose reports freely admit the existence of the errors alleged.¹² The Senate report stated that the errors in the census were caused "by inattention, or want of skill, on the part of those to whom was confided the duty of preparing its results for publication" and by "the unfaithfulness or incompetency of the agents who were appointed to take the census." A deeper and, perhaps, more important cause was "the ineffectiveness of the machinery by which the census was then taken, arising from the large increase in the number of inquiries, for which an inadequate compensation was provided, and from the lack of proper supervision of the work of the assistants by the marshals, who had other duties to perform."¹³

¹² The memorial is printed with the Senate report in 28 Cong. 2 sess., S. rep. 146. The House report is printed as 28 Cong. 1 sess., H. rep. 580. Other protests were made to Congress. One of the most interesting objected to the inaccurate statistics on the sanity of the negroes, which were being used as a justification of slavery.—28 Cong. 1 sess., H. rep. 579.

¹³ Wright and Hunt, p. 38.

The Census of 1850. The history of census taking in the United States has been marked by the outstanding merits of several censuses which advanced greatly the quality of the work. Each census was followed by other censuses in which the new level of attainment in scope, accuracy, and administrative methods was only maintained until for some reason or reasons the standards of the work were again lifted to a still higher plane. The first of these notable advances occurred in 1850, when a new cycle of censuses was begun.

In its report on the census of 1840 the Senate committee pointed out "the necessity of some legislation, with a view to prevent similar errors and inaccuracies in the census to be taken in 1850," while the House committee to accomplish the same end recommended the creation of a permanent Bureau of Statistics. These reports and the public attention that had been drawn to the unsatisfactory results of the Sixth Census caused more thought to be devoted to the problem of what information should be collected and how it should be gathered. After some confusion had been manifested on the question of the proper procedure to be followed in bringing about the desired reforms, Congress established a Census Board, composed of the Secretary of State, the Attorney General, and the Postmaster General (9 Stat. L., 402). This Board was directed to prepare and have printed the forms and schedules necessary for the enumeration of the population and for collecting data by means of not more than one hundred questions on mines, agriculture, commerce, manufactures, education, and other topics to exhibit "a full view of the pursuits, industry, education, resources of the country." To do this the Board was given an appropriation of ten thousand dollars and authority to appoint a secretary, whose compensation, according to an extraordinary provision in the law, was to be fixed by Congress upon the completion of the work.

The decisions of the Board were forced in one respect, however, as on the same day it was created the Department of the Interior was established by an act, one section of which provided that the Secretary of the Interior was to "exercise all the supervisory and appellate powers now exercised by the Secretary of State, in relation to all acts of marshals and others in taking and returning the census of the United States" (9 Stat. L., 395).

As the first attempt to plan adequately for a census the creation of the Board was a step forward, but the length of its deliberations after consulting a number of distinguished statisticians and the time taken to pass the legislation embodying most of its recommendations proved to be so great that the law providing for the census went into effect only eight days before the count was to begin (9 Stat. L., 428).¹⁴ The law not only extended the scope of the census greatly by increasing the number of inquiries but also introduced a number of changes. Instead of showing only the names of the heads of families, as had previously been done, the name of every person was required and all the questions on the population schedule were answered for each. This change from the family to the individual as the unit of enumeration was the most important made in the population schedule. The schedules on agriculture and industry were of the same type as before, only extended, but the schedule on social statistics contained some new items in addition to the data which had been collected. The most important new inquiries were those relating to the value of real and personal property owned, the amount of taxes paid, newspapers and periodicals, public libraries, criminals, cost of labor, and religious worship. Another new field of inquiry was added by a separate schedule showing the name, age, sex, color, marital condition, place of birth, occupation, month of death, and cause of death of everyone who had died during the year ending June 1, 1850.

With these exceptions, no innovations of importance were made by the law or the administrative methods to be followed in taking the census, the field work being assigned as before to the marshals and the assistants appointed by them. There were, however, two other features in the law that should be noted. Although it became effective only a few days before the date of the census, the administrative reasons for having an adequate time in which to prepare were recognized, and one section of the law stated that if no other law providing for the next or any subsequent census

¹⁴ Whether the Board or a special committee of the Senate, which attacked the problem independently, was entitled to credit for this legislation was the subject of some dispute. The views of the Superintendent of the Census, in which he attributes most of the ideas to Mr. Shattuck, who had taken a census of Boston in 1845, may be found in the *Compendium of the Seventh Census*, p. 13.

should be passed by the first of January of the year in which the Constitution required a census to be taken, the census was to be taken according to the provisions of that law. Thus, a period of at least six months was assured for the vast amount of preparatory work that was now necessary if the administrative work were to be properly done. The other noteworthy feature of the law was that part which provided that as soon as the next and each subsequent census should be completed the Secretary of the Interior was to divide the aggregate representative population of the United States by 233, the number fixed for the membership of the House of Representatives, and divide the quotient into the population of each state, to ascertain the number of representatives to which each was entitled. He was then to notify formally the House of Representatives and the executive of each state of his findings.

Although the law made only minor changes in the methods and governmental machinery to be used in the census, there was a marked improvement in results, due largely to better administrative supervision. The forty-five marshals and their 3231 assistants received not only the printed forms and general instructions previously given but also circulars explaining and defining each inquiry, and through personal correspondence with the office of the Secretary of the Interior, they had to explain cases where their returns seemed to indicate an error or any inconsistency. The closer supervision and the classification and compilation of all the returns in the central office necessitated a larger force in Washington. The average number of employees during the last months of 1850 was twenty-three; in November, 1851, there were 148. The average for that year and 1852 was 128, while for the first three months of 1853 the average was 160. As these clerks had only temporary positions and some of them were appointed for very short periods, it was difficult to obtain the highest quality of workmanship. The Superintendent of the Census complained that some had "never compiled a table before, and are incapable of combining a column of figures correctly. Hundreds of thousands of pages of returns are placed in the hands of such persons to be digested. If any are qualified it is no merit of the system. In 1840 returns were given out by the job to whoever would take them. In 1850 such was the pressure of work, that almost anyone could at times have a desk." ¹⁵

¹⁵ *Ibid.*, p. 18.

The work of compiling, digesting, and publishing the returns extended the life of the Census Office, as the organization was now called, to the time for taking the next census. It was not a continuous existence, however, as the Office was disbanded and revived several times during the period. After several abstracts, the general results, and a compendium of the census had been printed, the entire organization was disbanded in December, 1854, only to be revived early in 1855 to prepare a report on mortality that was requested by the House of Representatives. When this was completed in November, 1855, the Office again went out of existence. The work was resumed a third time when, in obedience to an act of Congress in 1858, the report on the data relating to manufactures was completed (11 Stat. L., 324). This was finished in December, 1859, but J. C. G. Kennedy, who was then in charge of the work, continued in office until the following May, when he was appointed Superintendent of the Eighth Census. Kennedy had been secretary of the special board created in 1849 to prepare for the Seventh Census. From that position he was appointed on the day before the census started to the office of superintending clerk of the census, or as it was soon called, Superintendent of the Census. Upon his resignation in 1853 he was succeeded by J. D. B. De Bow, who resigned when the Office was disbanded for the second time in 1855.

A statement of the population of all the states, except California, the returns for which were delayed because some of the first copies were destroyed by fire, was sent to Congress in December, 1851. This together with a second brief report was published in 1853 under the title of "Abstract of the Seventh Census." In the same year the general results of the census were printed in a volume of 1158 pages. This included statistics on population, agriculture, illiteracy, schools, libraries, churches, and newspapers and periodicals. In presenting this material there was added for the first time some preliminary text analyzing and explaining the tables and figures. The report also included a description of the methods used in taking the census; copies of the schedules used, of the instructions issued, and of the forms used in the Census Office in condensing and tabulating the returns; and other information on the cost of previous censuses in the United States and on the

experience of European countries. A compendium of the Seventh Census, which summarized the more important parts of the large report and added some statistics on mortality and manufactures, was issued in 1854. The report on mortality was printed in 1855 and that on manufactures, as has been indicated, was published in 1859 when the data were nine years old.

The Census of 1860. The Eighth Census was marked by no significant developments either in its scope or in administrative machinery and methods. As no law providing for it was passed before January 1, 1860, the provisions of the act of May 23, 1850, became effective, and the census was taken in accordance with them. Several minor changes were made in the schedules and on the instructions, but with these trivial exceptions the field work, in which sixty-four marshals and 4417 assistants took part, differed only in volume from the previous decade. The maximum number of employees in the Census Office, which J. C. G. Kennedy again directed, was 184 in May, 1862. There was a gradual decrease as the work neared completion until May, 1865, when the Office was abolished, although a few of the remaining clerks were transferred to the General Land Office, where they completed the last two census publications. A preliminary report on the Eighth Census was published in May, 1862; a volume on population and a volume on agriculture appeared in 1864; the volume on manufactures followed in 1865; and the final volume, issued in 1866, contained statistics on mortality, religious worship, schools, real and personal property, crime, wages, banks and insurance, railroads, fisheries, and other miscellaneous subjects.

The Census of 1870. Great as had been the advance made in 1850, experience in that and the following census had shown that the methods used in collecting the large mass of data required were too clumsy and haphazard for the best results. Those who realized that the old administrative machinery, which had been patched up so often, should be entirely abandoned made an effort to secure legislation that would take the field work away from the marshals and put it into the hands of a new force under the control of the Superintendent of the Census. A bill to bring about that and other important administrative changes was introduced into the House, accompanied by a favorable report, and passed that body

but was killed in the Senate for reasons that are not clear.¹⁶ Accordingly the Ninth Census was taken under the provisions of the law of 1850, which was amended in two minor particulars (16 Stat. L., 118, 380, 514).

The publications containing the results of the census appeared more promptly than had been the case in the two previous censuses. In 1872 the volume on population and social statistics was published; in the following year a volume on vital statistics, one on wealth and industry, and a compendium were issued, while the final volume based on this census, a statistical atlas, was made public in 1874. The volume on population and social statistics included the report of the Superintendent of the Census for the year 1871 in which he not only gives an account of the work that had been done but also makes extended remarks on the defects of the law and system under which the census was taken and on the steps that could be taken to remedy them. Maps and charts were first used on a large scale to portray graphically the most significant features. The census is also notable as the first in which machinery was used in compiling a portion of the results. The tallying machine that was used successfully was invented by Charles W. Seaton, the chief clerk of the Census Office.

The greater promptness in completing the work of this census was due in large measure to the appointment of Francis A. Walker as Superintendent of the Census.¹⁷ In many ways the most capable man that has ever been in charge of census work in the United States, he was appointed in February, 1870, after serving for a year as Chief of the Bureau of Statistics in the Treasury Depart-

¹⁶ The report, which contains a lot of information about the previous censuses and points out the defects both in the method of collection and in the inquiries made, is 41 Cong. 2 sess., H. rep. 3. According to a plausible article in the *Nation* of February 24, 1870, the action of the Senate was due to the personal animosity between Senators Conkling and Sumner and to the belief that the bill would place the power of dictating the appointment of the field force in the hands of members of the House of Representatives, while the marshals were usually nominated by Senators, who would, therefore, have great influence in the selection of their census assistants.

¹⁷ Some of the troubles that befell the lot of a Superintendent of the Census are related in *A Life of Francis A. Walker*, by James P. Munroe. The most unpleasant came from the not unexpected pressure of politicians for jobs and from a controversy with the Superintendent of the preceding census, waged in the public journals.

ment. He immediately began to organize his office, holding an examination to test the qualifications of those who applied for positions. That these examinations, the first that were ever used in connection with the census work of the government, were serious affairs, is shown by the fact that only 401 of the 719 applicants passed the first examination and only thirty-seven of the sixty-four were allowed a second trial. Walker remained in office only until November, 1871, when the lack of appropriations to pay his salary as Superintendent made it necessary for him to resign. But his resignation did not end his control over the census work; for to prevent that contingency he was immediately appointed Commissioner of Indian Affairs and in addition to the heavy duties of that office continued to supervise the compilation and analysis of the census returns. A year later Walker left that position, but this did not break his contact with the clerks who were preparing the final volumes of the census reports for publications, for he was appointed Superintendent of the Census without compensation and guided the work to its conclusion.

The complaints that had been made of the defects in the existing methods of taking the census were convincingly justified by the poor results of the count of population in the southern states. The trouble lay in the administrative machinery, according to Walker, who said,

When the appointments of enumerators were made in 1870 the entire lot was taken from the Republican party, and most of those in the South were negroes. Some of the negroes could not read or write, and the enumeration of the Southern population was done very badly.¹⁸

The Census of 1880. "It is not possible for one who has had such painful occasion as the present Superintendent to observe the workings of the census law of 1850 to characterize it otherwise than as clumsy, antiquated and barbarous. . . . It ought not to be possible that another census should be taken under this law; such a thing ought not to be seriously proposed." When the Superintendent of the Census wrote that in his report to the Secretary of the Interior for the year 1872, he was expressing views upon which the House Committee on the Census had acted in 1869.

¹⁸ Munroe, p. 113.

There were other objections to the participation of the marshals that were urged more openly than the political nature of the assistants appointed by them. The marshals were not only employees of the judicial department, selected with no reference to their fitness for census work, but they also had districts that varied greatly in size. Such an unequal distribution of territory may have been dictated by the necessities of their judicial work but so far as taking the census was concerned it was manifestly absurd for one marshal to have Southern Florida with a population of about six thousand in his jurisdiction, while another was responsible for counting the entire population of Northern New York, or nearly two and a half million persons.

These and other similar considerations, together with the increased demand for reform, which had accumulated since the failure of the remedial legislation in 1870, made it relatively easy to secure radical changes in the law when it came time to provide for the Tenth Census. The most important act became a law on March 3, 1879 (20 Stat. L., 473), but significant amendments were made by the act of April 20, 1880 (21 Stat. L., 75), and the appropriation for the census was not made until two weeks after the count had started (21 Stat. L., 275). The scope of the census was extended to encyclopædic proportions, but this feature of the new legislation was merely a further development of a tendency that had been evident almost continually since the First Census. Where the law broke from the past and introduced improvements which made the census of 1880 a landmark among censuses was in its provisions supplying new administrative machinery for making the enumeration. In place of the marshals and their assistants there was substituted a much larger field force with census duties only and under the effective and close supervision of the Superintendent of the Census.

The position of Superintendent of the Census, which previously had only the sanction of appropriation acts, was definitely established at the head of the Census Office in the Department of the Interior. The Superintendent was to be appointed by the President, by and with the advice and consent of the Senate, and his term was to expire when the census returns were compiled and published.

For the field work the law provided that as many as 150 supervisors of census could be appointed by the President with the advice

and consent of the Senate. The Secretary of the Interior was directed to designate the number of supervisors to be appointed for each state and territory, but each state was to have at least one. The supervisors were to be residents of the state or territory for which they were appointed. The duties assigned to each supervisor were:

1. To propose to the Superintendent of Census the apportionment of his district into subdivisions most convenient for the purpose of enumeration.

2. To designate to the Superintendent of the Census suitable persons, and, with his consent, to employ such persons as enumerators within his district, one for each subdivision, and resident therein, who shall be selected solely with reference to their fitness, and without reference to their political or party affiliations, according to the apportionment approved by the Superintendent of the Census.

3. To transmit to enumerators, sufficient quantities of the printed forms and schedules issued from the Census Office.

4. To communicate to enumerators the necessary instructions and directions relating to their duties, and to the methods of conducting the census, and to advise with and counsel enumerators in person and by letter, as freely, and fully as may be required; and under the direction of the Superintendent of the Census, and to facilitate the taking of the census with as little delay as possible, he may cause to be distributed by the enumerators, prior to the taking of the enumeration, schedules to be filled up by householders and others.

5. To provide for the early and safe transmission to his office of the returns of enumerators and for the due receipt and custody of these returns pending their transmission to the Census Office.

6. To examine and scrutinize the returns of enumerators, in order to ascertain whether the work has been performed in all respects in compliance with the provisions of law, and whether any town or village or integral portion of the district has been omitted from enumeration.

7. To forward to the Superintendent of the Census the completed returns of his district in such time and manner as shall be prescribed by the Superintendent, and in the event of discrepancies or deficiencies appearing in the returns from his district, to use all diligence in causing the same to be corrected or supplied.

8. To make up and forward to the Superintendent of the Census the accounts required for ascertaining the amount of compensation due to each enumerator of his district.

Under the supervisors were the enumerators, who were to make personal visits to each house in the subdivisions assigned to them, to fill out the schedules in accordance with the answers to their inquiries, and to report daily to the Superintendent and to their respective supervisors on their work. The number of enumerators was greatly increased because the law restricted each subdivision to an area which did not contain more than four thousand persons at the census of 1870, except in the new portions of the country where the growth of population since 1870 had been exceptionally rapid or where physical features might prevent. Each enumerator had to be a resident of the subdivision for which he was appointed. The larger field force provided made it possible to expect an earlier completion of that phase of the work, and accordingly the law required that in cities that had over ten thousand population in 1870 the enumeration was to be completed within two weeks and elsewhere within one month.

The supervisors were each to be paid a fixed sum, five hundred dollars, for their work, while the enumerators received varying rates for the number of schedules answered. In subdivisions where the Superintendent of the Census deemed these rates sufficient rates were fixed at two cents for each living inhabitant, two cents for each death reported, ten cents for each farm, and fifteen cents for each establishment of productive industry enumerated. For the other subdivisions the rates were to be fixed by the Superintendent with the approval of the Secretary of the Interior according to the difficulty of enumeration due to the nature of the country or the sparseness of settlement, but the compensation was not to exceed an average of more than four dollars a day of ten hours field work east of the one hundredth meridian, or more than an average of six dollars in any district west of that line. Penalties of fines and imprisonment were provided for fraudulent returns or for violations of the oath of secrecy. A supervisor could be removed at any time by the Superintendent of the Census with the consent of the President, and an enumerator could be removed by his supervisor with the consent of the Superintendent.

One other class of employee was used in the field work. The Superintendent was authorized to withdraw the schedules for manufacturing and social statistics from the enumerators whenever

he should consider such a step expedient, and to employ special experts. The experts and special agents were not restricted to the mere collection of this information but could be used to "investigate in their economic relations the manufacturing, railroad, fishing and mining, and other industries of the country, and the statistics of telegraph, express, transportation, and insurance companies."

In places where an official registration of deaths was required and kept the Superintendent was authorized to withdraw the mortality schedule from the enumerators of those subdivisions and to collect the desired statistics from the official records, paying not more than two cents for each death thus returned. This authority was used in Massachusetts, New Jersey, and the District of Columbia, and in nineteen cities, including all the largest ones, so that the statistics on deaths in an area containing approximately one-sixth of the total population were collected from the official records and not by means of the house-to-house canvass of the enumerators.

One other new feature in the law bore witness to the desire to strengthen the authority of the agents of the government in collecting the varied array of statistics now expected by the public. All previous census laws had required adult persons belonging to any family to answer to the best of their ability the questions asked in the census concerning any member of the family and had provided a small fine as a punishment for any failure to answer. The sanction for this undoubtedly lay in the constitutional provision for an enumeration of the population. But the law now provided, in addition to repeating the section regarding population, that "every president, treasurer, secretary, general agent, or managing director of every corporation . . . who shall . . . willfully neglect or refuse to give true and complete answers to any inquiries authorized by this act; . . . shall forfeit and pay a sum not less than five hundred dollars, nor more than ten thousand dollars, to be recovered in an action of debt in any court of competent jurisdiction, in the name and to the use of the United States, and in addition thereto shall be guilty of a misdemeanor, and on conviction thereof shall be imprisoned for a term not exceeding one year." If the constitutionality of this provision had been tested it could apparently only have been upheld under the general welfare clause.

The opportunity of directing this vastly improved machine was given to Francis A. Walker, who had played a prominent part in drafting the legislation and guiding it through Congress. This was the last occasion on which a Superintendent of the Census was appointed with previous experience in that position. Taking office on April 1, 1879, Walker had more than the usual time in which to organize his field force and make the other necessary preparations. The maximum number of supervisors possible under the law, 150, was appointed and a force of 31,382 enumerators, practically five times the number of marshals' assistants in 1870, was organized. Each enumerator was assigned to a subdivision which, it was estimated contained a population of not over two thousand.

The size of the Census Office in the Department of the Interior increased almost as much, proportionately, as did that of the field force. From 245 on the day the count began, the number of employees increased to 1084 by December 1, 1880, and reached its maximum of 1495 on March 15, 1881. The exhaustion of the census appropriations during the fiscal year 1881 caused an arrangement to be made by which some seven hundred clerks in lieu of salary voluntarily accepted certificates which were to be redeemed as soon as money was made available by a deficiency appropriation. Fortunately for all concerned, Congress passed the desired appropriation. The Census Office was formally abolished in March, 1885, but, as the work was not completed, it reappeared immediately as a Census Division in the office of the Secretary of the Interior. This organization continued in existence until July, 1886, when it, too, was disbanded except for one clerk, who remained in charge of the census records until the revival of the Census Office for the next census. Walker had resigned on November 3, 1881, and was succeeded by the chief clerk, Charles W. Seaton. The latter had been a division chief in the Census Office in 1870, had been superintendent of the New York state census of 1875, and had invented the tallying machine first used in the census of 1870 and again used on a larger scale in that of 1880.

A new plan for making the results of the census public was tried for the first time in this census and proved so successful that it has been invariably used ever since and extended to all the principal results. Instead of waiting for the publication of a complete

volume of final results, bulletins containing the preliminary results on some parts of the census, particularly the population in various political units, were issued from time to time. The first four volumes, containing statistics on population, manufactures, agriculture, and transportation, respectively, appeared in 1883. By the time the final volumes were published in 1888,¹⁹ twenty-two volumes and a compendium of two volumes totaling 21,458 pages had appeared. The great increase in the number of publications over those of the previous census, which had resulted in five volumes containing 3473 pages, was due not only to the larger number of subjects on which data were collected but also to the presence of many intensive studies, particularly on the economic features revealed by the census, written by experts and special agents. Even so, some of the data collected at so much trouble and expense were not used, and no reports resulted from the inquiries on churches, educational institutions, libraries, and insurance, though part of the material had been compiled. No compilation was made of the statistics of conjugal condition, although an inquiry on that subject had been answered on the population schedule. The statistical atlas prepared by the census employees was not printed officially because the appropriation was exhausted, but it was brought out by a private publishing house.

One other innovation introduced by the law of March 3, 1879, deserves to be mentioned, not because it had any permanent effect on census-taking in the United States, but because it is interesting as an attempt to shorten the job between censuses and as one of the earliest instances of a national grant to states for doing a certain thing in a certain way. The law provided that if any state or territory should take a census during June or July of 1885, using in it the schedules and forms used by the national government in 1880, and should deposit a copy of all the returns with the Secretary of the Interior, it would receive from the national treasury a sum equal to one-half the amount which was paid to supervisors and enumerators within that state or territory in 1880 increased by one-

¹⁹ The delay in completing the work on this census is explained in an article by Francis A. Walker on "The Eleventh Census of the United States" in *Quarterly Journal of Economics*, II, 135 (January, 1888). In this account of the administration and work he not only answers the charge of extravagance, but also frankly admits failures and mistakes.

half the percentage of gain in population in that area between the two preceding United States censuses. Of the fourteen states and territories that took censuses in 1885, only Florida, Nebraska, Colorado, and the territories of New Mexico and Dakota took advantage of these provisions. The returns they filed with the Secretary of the Interior were never published or used in any way by the national government, and this section of the law, which was never repeated, was generally considered a failure.²⁰

The Census of 1890. The law providing for the Eleventh Census was signed on March 1, 1889 (25 Stat. L., 760). As it only made minor deviations from the previous census and as the new Superintendent of Census, Robert P. Porter, was appointed a few weeks after the law was signed there was a better opportunity than ever before to prepare for the enumeration that was to be made a year and over three months later. Nevertheless, there were difficulties other than those necessarily arising from the magnitude of the work that rendered the task of the Superintendent a strenuous one. In describing the obstacles confronting him he said :

When I was appointed I had nothing but one clerk and a messenger, and a desk with some white paper on it. . . . Then the difficulty comes in getting your force together, picking out your men. I was not able to get more than three of the old men from this city. . . . Then, knowing all the old special agents of the Tenth Census, I wrote asking them if they were prepared to take up the work again. Some were and some declined. . . . Some of them were dead and some in private business. I succeeded in getting one from Colorado. . . . He had a good practice out there as a lawyer in Denver, where he had gone originally for his health. I could not pay him as much as he was making, but he was fond of statistical work and was desirous of again taking up the inquiry he had conducted in the Tenth Census. With these men we started up the organization.²¹

In preparing and printing the schedules and forms there were complications added to an enormous undertaking which could have been prevented by better administrative procedure. Altogether some 120,000,000 copies were printed of 2400 forms. The preparation of all these forms, upon which much of the value of the

²⁰ *Ibid.*, p. 157.

²¹ This is from his testimony before a select committee of the House of Representatives on a proposal to establish a permanent census bureau. 52 Cong. 2 sess., H. rep. 2393, p. 28.

census depended, was of the utmost importance, and yet "to guide us in getting up these blanks we had only a few scrapbooks that some one had had the forethought to use in saving some of the forms of blanks in the last census. He had taken them home, a few copies at a time, and put them into scrapbooks. The Government had taken no care of these things in 1885, when the office was closed up. Some of them had been sold for waste paper, others had been burned, and others lost."²²

Moreover, changes had to be made in the inquiries because of new legislation (26 Stat. L., 13), so that "but little over sixty days were allowed for the printing of 20,000,000 schedules and their distribution, accompanied by printed instructions to 50,000 enumerators all over the country, many of them remote from railroads or telegraph lines."²³

By retaining practically all the inquiries of the preceding census and adding a number of new ones the scope of the census of 1890 included a greater number of subjects than had ever been covered in any previous census and more than would ever again be attempted at one time. The principal new inquiries were to ascertain the ownership and indebtedness of farms and homes; the names, organizations served in, length of service, and residences of surviving Union soldiers or sailors and of the widows of those who had died; and the number of negroes, mulattoes, quadroons, and octoroons. The population schedule was changed so that a separate schedule was used for each family, irrespective of the number of persons in the family.

Naturally the force taking the census also increased to larger proportions than ever before. The number of supervisors was increased to 175, and they were allowed certain sums for clerical hire and expenses. Their compensation was changed to a fixed sum of \$125 plus one dollar or \$1.40 per one thousand inhabitants, but in no case was the total to be less than one thousand dollars. All the supervisors received this minimum except those for the cities of New York, Chicago, and Philadelphia, and the one who had charge of the state of Massachusetts, which was one district. The total number of enumerators employed was 46,804, of whom 2226 were special enumerators for large institutions and 1045 were

²² *Ibid.*, p. 26.

²³ *Ibid.*, p. 23.

enumerators appointed to recount districts or parts of districts where the original work had been improperly done.

More attention was given to the organization by the law providing for the Eleventh Census than any law had previously given. It provided that the Secretary of the Interior could appoint "a chief clerk and one disbursing clerk at an annual salary each of twenty-five hundred dollars, two stenographers, ten chiefs of division, at an annual salary each of two thousand dollars, ten clerks of class four (\$1800), twenty clerks of class three (\$1600), thirty clerks of class two (\$1400), with such number of clerks of class one (\$1200), and of clerks, copyists, and computers, at salaries of not less than seven hundred and twenty dollars nor more than one thousand per annum, as may be found necessary for the proper and prompt compilation of the results of the enumeration." He was also authorized to appoint watchmen, messengers, and charwomen at specified salaries. These restrictions did not bind the Secretary of the Interior and the Superintendent of the Census as much as might be supposed. While the law authorized the appointment of only ten chiefs of division there were at one time twenty-five divisions in the Census Office, many of them being under special agents and experts whom the Secretary of the Interior could appoint freely.²⁴ The maximum number of employees in the Census Office was reached in May, 1891, when 3143 persons were on the payroll. A large proportion of these were appointed under a system of examinations prescribed by the Secretary of the Interior.

As in 1880, the Superintendent of the Census was authorized to withdraw certain schedules from the enumerators and to use experts and special experts in collecting the information desired. About 1500 special agents were used to collect statistics on manufacturing and industry in 1042 important manufacturing centers. The data on mortgages on farms and homes and the statistics on fisheries were all collected by special agents. All the mortality schedules were withdrawn from the enumerators, and copies of the death registration records were secured from Massachusetts, Connecticut, New Hampshire, Vermont, Rhode Island, New York, New Jersey, Delaware, the District of Columbia, and eighty-three

²⁴ The names of these divisions and of the people in charge of each, and an account of their work can be found in a report of the Superintendent of the Census, dated December 1, 1891, and published as 52 Cong. 1 sess., S. doc. 1.

cities outside those states, representing three-tenths of the entire population of the country in 1890.

This census is notable as the first in which the electrical tabulating system, invented by Herman Hollerith and known by his name, was used. The Hollerith system, about which more will be said later, involved the use of a card for each person returned in the census. By punching holes in the cards at the proper places a great number of details as to age, sex, color, conjugal condition, place of birth, parentage, occupation, and other facts were transferred to the cards from the schedules returned by the enumerators. The cards were then run through an electric tabulating machine which counted the data indicated on them. The use of these machines not only made possible a degree of accuracy and a rapidity in counting and tabulating that was otherwise unattainable, but it also permitted an easy determination of combinations of various characteristics of the population which would have caused so much work to ascertain by any other method that any such attempt was impossible. The machines were rented by the Superintendent of the Census, the first contract for six of them being dated December 13, 1889.²⁵

The better administrative methods were reflected in the relatively speedy announcement of the population count. The first announcement of population was made on June 28, 1890. Others followed rapidly, so that the preliminary figures for the entire country were given to the public by October 28, and the official figure was known a month later. Bulletins containing the results of portions of the census were issued more extensively than in 1880, thus avoiding the delay in waiting for the publication of the final volumes. The latter were slow to appear. The last volume of the reports of the Eleventh Census was issued in 1897. In addition to the twenty-five volumes including the full reports, there was a compendium of three volumes, an abstract, and a statistical atlas, a total of over 26,000 pages. No appropriation being available, the mass of information that had been collected regarding the survivors of the Civil War was not printed, and at the order of Congress the schedules were turned over to the Bureau of Pensions.

²⁵ Anyone interested can find the terms and dates of the contracts made for Hollerith machines in the Eleventh Census as well as some pictures of the first models of the machines used in 52 Cong. 1 sess., S. doc. 69.

The cost of this census, which was double that of the previous one, the apparent slowness in completing the work of tabulating and printing the results, and the decreased rate of increase in the population shown by the results led to widespread criticism and to several investigations of the Census Office²⁸ by Congress. These had no immediate consequences, but the desire of Congress to hasten the completion of the work and the end of the Census Office was clearly manifested. In a deficiency appropriation act for the fiscal year 1893, Congress directed that the Census Office should be abolished by December 30, 1893, and that any unfinished work should be completed by a small number of employees at specified salaries, whom the Secretary of the Interior was authorized to appoint (27 Stat. L., 658). On October 3, 1893, Congress extended the time for the abolition of the Census Office to June 30, 1894, and authorized the President to direct the Commissioner of Labor, Carroll D. Wright, to perform the duties of the Superintendent of the Census, the latter having resigned several months earlier (28 Stat. L., 3). After having its life extended once more (28 Stat. L., 60), the Census Office went out of existence on March 4, 1895, and the work was turned over to a Census Division in the office of the Secretary of the Interior under the supervision of Carroll D. Wright (28 Stat. L., 857). This division in turn was disbanded on June 30, 1897, when the census records were turned over to a clerk for preservation.

The Census of 1900. A general appreciation of the fact that in the last two censuses an attempt had been made to collect too many data at one time to secure the best results was responsible for the smaller number of inquiries on the schedules of the Twelfth Census. In the law providing for the census of 1900 Congress restricted the inquiries to those necessary to supply the most important statistics of population, mortality, agriculture, and manufacturing (30 Stat. L., 1014). The reports on each of these

²⁸ 52 Cong. 1 sess., H. rep. 961, 1170, and 1933; S. doc. 69; 2 sess., H. rep. 2617; 53 Cong. 2 sess. S. doc. 52. In 1899 a volume of critical essays under the title, "The Federal Census," was published by the American Economic Association (Publications, New Series, No. 2). These essays enquired into the scope and method of the Eleventh Census with the purpose of determining what ought to be attempted at the Twelfth. While they are chiefly concerned with statistical technique and with the content of the census, they cast much light on the administrative agency and its methods.

subjects, called the Census Reports, were to be published by June 30, 1902. After the schedules for them were returned to the Census Office the law authorized the collection by special agents when necessary, of statistics relating to

special classes, including the insane, feeble-minded, deaf, dumb, and blind; to crime, pauperism, and benevolence, including prisoners, paupers, juvenile delinquents, and inmates of benevolent and reformatory institutions; to deaths and births in registration areas; to social statistics of cities; to public indebtedness, valuation, taxation, and expenditures; to religious bodies; to electric light and power, telephone and telegraph business; to transportation by water, express business, and street railways; to mines, mining and minerals, and the production and value thereof, including gold, in divisions of placer and vein, and silver mines, and the number of men employed, the average daily wage, average working time and aggregate earnings in the various branches and aforesaid divisions of the mining industry.

The reports on these subjects, known as Special Reports, were to be prepared in such a way as not to interfere with the completion of the Census Reports.

In most important respects the administrative machinery provided for the Twelfth Census was the same as that which had been used in the previous two censuses. A few changes should be noted. The title of the head of the Census Office, which was again established in the Department of the Interior, was changed from Superintendent to Director of the Census. A new position of Assistant Director of the Census was created with the restriction that the man appointed by the President should be "an experienced practical statistician." The power and importance of the Director of the Census were greatly increased since the employees of the Census Office were to be appointed and removed by him and not as formerly by the Secretary of the Interior. His appointees, except enumerators, special agents, and the lowest paid laborers, had to qualify by passing noncompetitive examinations prescribed by him.

The provision requiring a noncompetitive examination did not eliminate political influence. On the contrary that influence was as strong as ever and was frankly recognized by the census authorities. The method of making appointments was described by the Assistant Director of the Census as follows: "A mathematical

scale was worked out by which the number of 'assignments' to each Senator and Representative was determined in advance, so many appointments to a Senator, a smaller number to a Representative, half as many to a Democrat as a Republican, and in Democratic States and congressional districts the assignments were made to the Republican state and district committees. The assignees named in the first instance the persons to be examined. They were afterwards furnished each with a list of those names who had 'passed' and requested to name those whom they desired to have appointed. Vacancies were filled in the same manner. This system was thoroughly satisfactory to the majority of the politicians interested, though there were a few who refused to have anything to do with it. The effect upon the bureau was, as may readily be imagined, thoroughly demoralizing."²⁷

No new development of significance appeared in the work of taking the Twelfth Census. The practices of the preceding census were again employed in much the same way, although certain tendencies became more marked. Thus, the registration area, in which mortality statistics could be taken from the official records of the local authorities, was greatly extended. The electric tabulating machines were used on a larger scale and the invention of several improvements, such as an automatic feeder and an automatic sorting machine, added to their effectiveness. Machines were used in this census for the first time in tabulating the statistics on manufactures and on agriculture. A larger proportion of the schedules of manufactures was put in the hands of special agents. The number of persons engaged in taking the census surpassed previous records, the maximum being 59,373, composed of 3554 persons in the Census Office at Washington, 2648 special agents in the field, 300 supervisors and 52,871 enumerators. The family schedule used in the enumeration of population in 1890 was abandoned.

The Census Reports, containing the basic statistics of population, mortality, manufactures, and agriculture, appeared in 1902, substantially as the law had directed. They occupied ten volumes of 10,492 pages, but by no means contained all the valuable and interesting data collected by the enumerators. The prepara-

²⁷ Quoted by President Roosevelt in his special message of February 5, 1909.

tion of supplemental reports on these data and of the special reports on the subjects specifically mentioned in the law was in progress in 1902 when the status and the program of the Census Office was altered by legislation making the Census Office one of the permanent administrative services of the government.

Establishment of the Permanent Census Office. For more than half a century the desirability of making the Census Office a permanent organization had been discussed. In the annual reports of the Superintendent of the Census, in the hearings before congressional committees, in the committee reports, and in the writings of eminent statisticians this step was repeatedly urged as the best way to improve the quality and to reduce the cost of the census work. The argument was well stated in 1854 by the Superintendent of the Census, who wrote that "In Washington, as soon as an office acquires familiarity with statistics, and is educated to accuracy and activity, it is disbanded, and even the best qualified employee is suffered to depart. The government may rely upon paying heavily for the experience which is being acquired."²⁸ A second argument was added as the result of the extension of the scope of the census which caused a vast mass of raw statistical material on a variety of subjects to be dumped on the Census Office at one time. If the work should be distributed throughout each decade and could be done by a permanent organization of experienced statisticians, it was reasonably claimed that the results would be better, would be available more promptly, and would be cheaper. The force of this reasoning had been partially recognized in the law providing for the census of 1900, which had divided the subjects of the census into two groups and directed that the reports on one should take precedence over the other.

The repeated recommendations of those in charge and of prominent persons interested in the census work led to many attempts in Congress to secure the legislation necessary to establish a permanent organization. Bills for that purpose were introduced in increasing numbers during the decade after 1890. Hearings were frequently held, and on several occasions favorable reports were submitted by committees. There was almost no opposition to the proposal manifested, but inertia, the difficulties of getting legisla-

²⁸ Compendium of the Seventh Census, p. 18.

tion passed when no organized group is to be benefited or is vitally interested, and the usual reluctance of Congress to expose itself to the charge of creating new governmental agencies prevented final action.²⁹ The need became so great and the remedy proposed so obvious that these failures proved to be only postponements, and on March 6, 1902, the long desired legislation was secured.

The law (32 Stat. L., 51) provided that the Census Office then existing as a temporary office in the Department of the Interior should be organized and continued after July 1, 1902, as a permanent office. The organization was to consist of the Director, appointed by the President by and with the advice and consent of the Senate, at an annual salary of \$6000; four chief statisticians, who were to be persons "of known and tried experience in statistical work," a chief clerk, who was to be acting director in the absence of the Director, and a disbursing clerk, each at an annual salary of \$2500; one stenographer at \$1500; four expert chiefs of division at \$1800 each; six clerks of class three (\$1600); ten clerks of class two (\$1400); and such number of clerks of class one (\$1200) and of clerks, copyists, computers, and skilled laborers with annual salaries not less than \$600 or more than \$1000, and of messengers, watchmen, unskilled laborers, and charwomen as might be necessary for the performance of the duties required by law. All these employees were to be appointed by the Director, but with the approval of the head of the department to which the Census Office was attached, so the Secretary of the Interior was given greater authority over the permanent force than he had had over the temporary employees. Employees of the Census Office when

²⁹ The legislative history and the nature of some of these attempts to establish a permanent census office can be found in Wright and Hunt, pp. 79-83; 57 Cong. 1 sess., H. rep. 262; 54 Cong. 2 sess., S. doc. 5; 52 Cong. 1 sess., S. doc. 1; 52 Cong. 2 sess., H. rep. 2393. In the minority report in the last is one of the few instances of open opposition to the idea. After saying "our census has become a jumble of figures and irrelevant inquiries filling many volumes, which make their appearance so late after taking that they are valuable only for waste paper"; the minority stated their opinion that only the bare count of population required by the Constitution for the apportionment of representation should be made. The parts played by the National Board of Trade, the American Statistical Association, and the American Economic Association, as well as other features of the movement, are described by Walter F. Willcox, "The Development of the American Census Office since 1890," in *Political Science Quarterly*, XXIX, 438 (September, 1914).

this act was passed were made eligible for appointment to the permanent force and when so appointed they were placed in the classified civil service. All new appointments had to be made in accordance with the civil service laws and regulations. In addition to the above employees the law authorized the appointment, by the Director alone, of special agents for collecting the special statistics required by the law, at salaries fixed by him, but in no case over six dollars per day plus traveling expenses and an allowance of three dollars per day in lieu of subsistence. The special agents were not in the classified service.

The duties assigned to this permanent organization may be grouped according to subject matter and to periodicity. In the first place it was to finish the work of the Twelfth Census and take the Thirteenth and all subsequent censuses in accordance with the law providing for the Twelfth Census except as modified by this or future law. Some of the changes were obviously made in order to spread the work of the Census Office over the ten-year period. Thus, the statistics on the subjects which were to constitute the Special Reports of the Twelfth Census were to be collected decennially, the year being left to administrative discretion. Other changes shortened the periods between censuses on certain subjects. Quinquennial figures on manufactures were required by a provision directing that in 1905 and every ten years thereafter the Census Office should collect statistics of manufactures, "confined to manufacturing establishments conducted under what is known as the factory system, exclusive of the so-called neighborhood and mechanical industries." The hand trades or neighborhood industries which had previously needlessly complicated the census of manufactures have not since been restored to the scope of the census. Statistics of births and deaths were to be collected annually, the data being obtained only from the registration records of the states and municipalities which, in the opinion of the Director of the Census, might possess records affording satisfactory data. Statistics of cotton production as returned by the ginner were to be collected annually and the results published in bulletins issued weekly from September first to February first. There was also a general, and perhaps unnecessary, provision stating that the Director should make such special collections of statistics as might be required of him by Congress.

The law also provided that the printing office which had been established in the Census Office was to be abolished on July 1, 1902, and its equipment turned over to the Public Printer and that in the future all the printing of the Census Office was to be done by the Public Printer at the Government Printing Office. General authority was given to the Director of the Census to have printed and distributed bulletins and reports of the preliminary and other results of all the investigations authorized by law.

The First Intercensal Period, 1902-1909.³⁰ Within the first year of its existence as one of the permanent bureaus of the government the Census Office left the administrative department which had sheltered it with varying degrees of intimacy during its periods of activity since 1850. The act of February 14, 1903, establishing the Department of Commerce and Labor, transferred the Census Office to that department from the Department of the Interior (32 Stat. L., 825). It was evident that Congress contemplated the possibility of developing the Census Office into a central statistical service, for in the section of the law transferring the Office, the Secretary of Commerce and Labor was given power to rearrange the statistical work of the bureaus and offices in his department and even to consolidate them. The opportunities for concentrating statistical work in the Census Office were greater than this provision indicated on its face, for another section of the same law authorized the President to transfer to the Department of Commerce and Labor from any of the other departments except the Department of Agriculture the whole or any part of any office, bureau, or division engaged in statistical work.

In the new Department the issue was quickly raised as to the status of the Bureau. Was it to have in the Department of Commerce and Labor the practical independence and autonomy it had enjoyed in the Department of the Interior from 1899 to 1903, or was it, as the Secretary maintained, like any other bureau and subject to his control as such? The issue arose in different guises, and when referred to the legal officers of the government met with

³⁰ In all that follows statements of fact are taken from the annual reports of the Director of the Census except where otherwise indicated. An account of the same period can be found in an article by John Cummings, "The Permanent Census Bureau: A Decade of Work," in *American Statistical Association, Publications*, XIII, 605 (December, 1913).

various and conflicting opinions. But irrespective of the legal merits of the case or of the intent of Congress, it soon became apparent that the Department was able to exercise the usual control over the Bureau and this was in fact done.³¹

One of the disputes was concerned with the name of the Census Office, which the Secretary wished to change to "Bureau of the Census" in his effort to correct the chaos of names of the organizations in his Department. Objection was made that this name was not authorized by Congress and that a change needed the sanction of that body, but beginning with the fiscal year 1904 the regular annual reports of the Director of the Census bore the designation, Bureau of the Census, and consistently used that term. Congress was much slower to adopt the new name, for, although it referred to the "Bureau of Census" as early as January 1907 (34 Stat. L., 866), it usually used the older form, particularly in appropriation acts until after the act of July 3, 1918 (40 Stat. L., 803). Thus, the change in name was a gradual process, accomplished by administrative practice and repetition and not by legislative enactment.

The organization and personnel which had been assembled in 1899 to take the Twelfth Census continued after July 1, 1902, as the permanent Bureau, for the peak of the clerical work on the Twelfth Census had been passed and by making almost normal reductions in the temporary force a permanent force was left in the numbers and positions fixed by the law and appropriations. William R. Merriam, who had been appointed Director in 1899, continued as Director of the permanent Office until June, 1903, when his resignation was forced, apparently because of his attempts to preserve the autonomous position of the Bureau in the Department of Commerce and Labor. He was succeeded by S. N. D. North, who had been chief statistician for manufactures since 1899. The balance of the Census Office consisted of the chief clerk, a chief statistician for population, a chief statistician for manufactures, a chief statistician for agriculture, a chief statistician

³¹ The disputes, the results, and the significance of the outcome to the census work are explained by Walter F. Willcox, "The Development of the American Census Office Since 1890," in *Political Science Quarterly*, XXIX, 449, 459. The opinion rendered by the Attorney-General may be found in 22 Op. 413; 24 Op. 697; 25 Op. I, II, 228; and the one rendered by the Comptroller of the Treasury in 10 Dec. Comp. Treas. 577.

for vital statistics, a disbursing and appointment clerk, four expert chiefs of division, six clerks of class three (\$1600), one stenographer, ten clerks of class two (\$1400), 272 clerks of class one (\$1200), 235 clerks at an annual salary of \$1000, 260 clerks at \$900, twelve skilled laborers, ten watchmen, six messengers, fifteen assistant messengers, sixteen unskilled laborers, and forty-five charwomen.

This force fluctuated considerably during the first seven years of its existence, not so much in the total number of employees as in their distribution among the various classes and positions. By various appropriation acts the number of expert chiefs of division was gradually increased until in 1909 there were eight. Most of these chiefs of division acted as assistants to the chief statisticians, being in charge of subdivisions of the work of the five principal divisions into which the Census Office was organized in 1899 and which continued to form the basic structure of the permanent Office. They were the Divisions of Population, Manufactures, Agriculture, Vital Statistics, and Methods and Results, or, as it was later called, Revision and Results. The personnel of these divisions was not uniform in numbers, but on the contrary most of the clerical force would be concentrated on single investigations in any division. Each was under the chief statistician for its subject except Revision and Results which, because the permanent census act provided only four positions of the grade of chief statistician, was under an expert chief of division. Next in importance to these five divisions was the Geographer's Division, under the geographer, a position created in the permanent force by the appropriation act for the fiscal year 1900 (33 Stat. L., 137).

Special agents to collect in the field the statistics on the various subjects required by Congress in the permanent census act, and in subsequent acts passed from time to time, varied greatly in number according to the nature and amount of work under way and to appropriations available. In 1905 when the quinquennial census of manufactures was being taken, 150 clerks detailed from the Washington office, twenty-five office special agents, and 734 local special agents were employed in the field for that canvass. On other occasions the force doing the field work was reduced to fewer than twenty employees except for the cotton agents. The latter, used in collecting the statistics of cotton production, consti-

tuted a large and semi-permanent field force. In 1902 when the work was started 624 special agents were appointed, and by the fiscal year 1909 the number had increased to 728.

The work of the Bureau during these seven years naturally was subject to the difficulties and uncertainties incident to the first years of any new service. At first the bulk of the work consisted of the preparation of special reports based largely on data collected in the census of 1900. As these gradually appeared, more and more attention was devoted to the other statistical compilations required by the permanent census act, like the census of manufactures in 1905, and to the new ones ordered by Congress from time to time. In 1906 an amendment to the permanent census act authorized the Director to collect decennially, in addition to those already ordered, statistics relating to savings banks and other savings institutions, mortgage, loan, and investment companies, and similar institutions; the fishing industry in coöperation with the Bureau of Fisheries; and every five years, statistics relating to street railways, electric light and power, telephone, and telegraph business (34 Stat. L., 218). The same act also ordered the Director to edit, index, and publish the Official Register of the United States, a publication containing the names of all government employees, which had previously been prepared and published biennially by the Secretary of the Interior.

The initial difficulties encountered by the Bureau are well illustrated by its experience in the collection of statistics of cotton production. According to the permanent census act bulletins giving the results as returned by the ginneries were to be issued weekly from September first of each year through the following January. In his first annual report after this legislation was passed the Director of the Census stated that because of the remoteness of many of the ginneries from railroads, and in some instances even from post offices, it would be impracticable to attempt to report as frequently as the law directed. Only three reports were issued; one giving the cotton ginned up to October 18, the second to December 13, and the third the quantity ginned from the entire growth of 1902. Approximately thirty thousand ginneries were visited by the special agents of the Bureau and some two hundred more in outlying counties were reached through correspondence. More frequent reports were made in the following year, but evidently

Congress was not satisfied with them, for, on February 9, 1905, it ordered the Director to make public the amount of cotton ginned semi-monthly "in lieu of the monthly reports he now makes" (33 Stat. L., 1282).

Aside from the technical difficulties inherent in this service there were others arising from the opposition of some of the ginner on certain occasions to give the necessary facts. Thus, in the season of 1904, when the reports indicated that a record crop would be produced and the market price was correspondingly lowered, a natural reluctance to revealing information that might further depress prices led to open opposition in some cases. As many as 842 ginner refused to give any data at all on one monthly canvass and there was evidence of an organized boycott. Since the Director had no authority to compel the recalcitrant ginner to give this information, he announced on December 29, 1904, that if this opposition were continued the reports on cotton would be abandoned. He pointed out that "the reports had been authorized by Congress at the urgent demand of the cotton planters, and that no class of citizens was more vitally concerned in early and accurate knowledge of the size of the crop, whether it be large or small."³² However, only a small minority of the ginner had participated in the refusal to coöperate, and even these few gradually decreased in number after the majority opinion in favor of full information had been expressed, especially at a convention of cotton growers that met in New Orleans. Various improvements in the work on the part of the Bureau further quieted opposition. Returns were

³² By an ingenious arrangement several years later the Bureau of the Census obtained power to compel ginner to supply such information. The legislature of Alabama passed a law requiring statistics of cotton production to be reported by the ginner to a state agency. The head of the Alabama Bureau of Cotton Statistics made an agreement with the Bureau of the Census to coöperate in the work, and this agreement was embodied in new legislation enacted by the state legislature. Under it the Census agents acted also as state agents and supplied, without cost to the state, returns to the Alabama bureau simultaneously with those sent to Washington. As a result the federal agents enjoyed the full powers of the state law, which had fixed severe penalties for refusal or for making inaccurate returns and had provided the necessary legal machinery for prompt enforcement of the law. This happy method of devising means to an end, which depends, of course, on the desire of the state legislature to attain the same end as the national government, is described in the Report of the Director of the Census for 1907, pp. 9, 11.

sent in by the special agents by telegraph, thus advancing by a week the date of publication of the reports. In sections where the reports were admittedly deficient, new agents were appointed and a system of inspection was established. An understanding was reached with the Bureau of Statistics of the Department of Agriculture, which also collected statistics on cotton production, so that the reports would be in harmony with each other and thus prevent confusion in the commercial world and criticism of the government.

Initial difficulties of a different sort prevented the Bureau from collecting and publishing vital statistics as the permanent census act had contemplated. This act had stated that there was to be a collection made annually of both birth and death statistics, the data to be obtained solely from the registration records of the states and municipalities which, in the opinion of the Director, possessed satisfactory records. In his annual report for the fiscal year 1903 the Director announced that as the registration of births was too defective to supply sufficiently complete and accurate data, only mortality statistics would be collected for the time being. It was not until 1909 that an effort was made to present statistics of births, and even then the effort proved so unsuccessful that no report was published. Meanwhile, notable progress had been made in extending the registration area for mortality statistics and in improving the statistics collected. After a delay caused at first by the rates of compensation, which were not enough to secure the transcription of the records in places with small population, and later by the press of other business which occupied all the time of the clerks in the Bureau, the first report was issued, covering the years 1900 to 1904. The figures for the following years appeared annually in separate reports. Several pamphlets were published as a part of this work by the Bureau, either to encourage doctors to use the classification of causes of death recommended by the International Congress of Hygiene and Demography and by the Bureau, or to inform state and municipal officers of the requirements to be fulfilled in order to have their registration records accepted by the Bureau. Through its publications and the advice and assistance rendered to state authorities in preparing laws and perfecting their methods, the Bureau shared in the movement which resulted in the adoption of registration laws and procedure by more and more

states and cities. As an incident to this movement Congress, on the recommendation of the Director of the Census, adopted a resolution requesting state authorities to coöperate with the Census Office in securing a uniform system of birth and death registration (32 Stat. L., 1231).

One of the duties assigned to the Bureau by the permanent census act was the decennial collection of social statistics of cities. Data of a similar nature for cities of over thirty thousand population had been collected annually since 1899 by the Department of Labor, which had become the Bureau of Labor in the Department of Commerce and Labor. After an attempt to secure legislation transferring all this work to the Bureau of the Census had failed through lack of congressional action, the same end was achieved on July 1, 1903, by an order of the Secretary of Commerce and Labor, based on the power to rearrange the statistical work of all his bureaus given him in the act establishing his Department. In using this authority for annual collections a distinction was quickly made between financial and other statistics and more and more emphasis was placed on the former. The tendency to concentrate on financial statistics led to the adoption of a plan, announced by the Director in his report for 1910, under which the financial statistics would be published annually and the other aspects of municipal government would be taken up one or two at a time, so that statistics on them would appear once in five years. Efforts were made during this period to make the financial statistics of the different cities uniform, at least to such a degree as would make the figures valuable for comparative purposes. Some progress was made toward uniformity in classifying accounts and in reporting finances, but even with a uniform accounting system the statistics could only be compared correctly when the conditions producing them were fully known and weighed. In the movement toward uniformity in accounting and reporting of finances the Bureau played a leading part, stimulating the interest of the various municipal authorities, supplying them with information, and coöperating with the National Municipal League and other organizations working for the same ends.

In addition to the inquiries authorized by the permanent census act the Bureau was required to make a number of others during the first intercensal period, some of which were nonrecurring, while

others were added to the regular work of the Bureau. On September 30, 1902, three months after the organization of the Bureau as a permanent establishment, an order of the President directed the Bureau of the Census to compile, tabulate, and publish the returns of the Philippine census, the field work of which was conducted under the auspices of the War Department. Permission was given by Congress to employ temporary clerks on this work and appropriations were made available (32 Stat. L., 1059). Little use was made of this authority, however, as most of the work, which resulted in four volumes, printed both in English and in Spanish, was performed by the regular force of the Bureau. Work of a similar nature was done in 1908 on the census of Cuba. On January 30 of that year the President ordered the Director to compile, tabulate, and publish, at the expense of the Cuban government, the returns of the census that had been taken as of the year 1907 by the provisional governor of Cuba. This task was speedily performed by 136 temporary clerks, working under the supervision of fifteen employees of the Bureau, and using its newly developed tabulating machinery. The Bureau was utilized on another special census in 1907, when the President, through the Secretary of Commerce and Labor, ordered it to take a census of the population in the territory of Oklahoma and Indian Territory, or the proposed new state of Oklahoma. In this instance the Bureau had charge of the field work, too, and some twenty-five clerks were sent from Washington to select the field force and supervise its work.

Another special collection of statistics, and one which later became part of the regular work, was assigned to the Bureau in 1905 by a joint resolution of Congress which ordered the Director of the Census to collect and publish the statistics of marriage and divorce since January 1, 1887 (33 Stat. L., 1282).³³ The press of work on the census of manufactures in 1905 delayed this undertaking, so that when it was finally completed the figures were brought down to the year 1906. In the field work there were employed at intervals 138 of the regular clerical force of the Bureau, 220 special agents, including some cotton agents, and 775 county clerks, who were used in counties where the number of divorces

³³ Statistics on marriage and divorce from 1867 to 1886 had been published in the First Special Report of the Commissioner of Labor, 1889.

was too small to justify the expense of sending a special agent or a clerk. The results were published in two volumes, one appearing in 1908 and the other in the following year.

Some of the extraordinary tasks the Bureau was called upon to perform made relatively small demands on its time and energy. At the request of the National Monetary Commission the Bureau tabulated the financial statistics of banks throughout the country. At the request of the House Committee on Ways and Means the Bureau rearranged statistics of manufactures that were collected in 1905 in conformity with the paragraphs of the tariff act, and compared the amounts of exports and imports. A compilation of statistics on the production of paper and wood pulp and on other phases of that industry was made at the request of a select committee of the House of Representatives.

Among the special publications of the Bureau in these years none probably received more attention than the volumes containing the detailed information returned at the First Census including the names of the heads of families, which, as has been pointed out, were the only names then collected. For a number of years historical, genealogical, and patriotic societies had frequently urged the publication of such of the returns of 1790 as had been preserved and were in the custody of the Bureau. The returns from some of the states had been destroyed, probably when the Capitol was burnt during the war of 1812. These requests finally resulted in a provision in the sundry civil appropriation act for 1907, in which Congress ordered the Director of the Census to publish the returns of 1790 (34 Stat. L., 722). Accordingly a volume was issued on each of the following states: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, North Carolina, and South Carolina. The census records for Virginia were among those missing, but a volume was published containing the names of the heads of families, based on the records of the state enumerations of 1782-85.

The interest stimulated by these volumes led to another special report entitled "A Century of Population Growth from the First Census of the United States to the Twelfth, 1790-1900." This report, prepared by W. S. Rossiter of the staff of the Bureau, revealed for the first time much interesting information about the First Census, and besides comparing and analyzing the population

statistics of over a century, pointed out some of their significant features.

"In the last analysis," wrote the Director of the Census in his annual report for 1906, "the Census Bureau is nothing but a great publishing house, with no administrative functions except such as are connected with its own organization." While this was not strictly true, as publishing houses do not prepare their own manuscripts, publication was the final end of virtually all the work of the Bureau and so much of it was done that it is easy to understand how the Director should regard himself as the head of a publishing house. His responsibility in this regard was greater than that of practically all the other bureau chiefs of the government, for although the permanent census act required all printing to be done at the Government Printing Office, the publications of the Bureau were exempt from many of the general laws governing publications and their distribution, and these matters were left largely to his decision. Various measures were taken to prevent a wasteful distribution of the census publications. The practice of issuing bulletins containing portions of the larger reports was continued and extended to all cases where it was practicable. By this means the information was not only made public sooner, but the Bureau of the Census was also able to supply the data requested in a small bulletin instead of having to send a costly volume, most of which was not wanted. In some cases, as in that of the Official Register of the United States, the same end was achieved by changing the form so as to permit a more effective distribution of the report. All the census publications were distributed by the Bureau without any charge until Congress authorized publication and sale of the special reports containing the names of the heads of families in 1790. This innovation met with the approval of the Director, who recommended that all census publications, except those given to public libraries, members of Congress, foreign governments, and national and state officers, be sold at a price less than the cost of printing but sufficient to prevent them from going to persons who had no desire or use for them. The need for careful supervision over the distribution of publications can be appreciated from the number of copies distributed in the fiscal year 1908, which was typical of the other years in this period. In that year there were

distributed 390,000 cotton reports, 195,508 bulletins, 6148 bound volumes of the Twelfth Census, 17,856 bound volumes of special reports of the Bureau, and 8857 special reports in paper covers, in addition to several thousand volumes of the Philippine census and of the Eleventh and Tenth Censuses.

All the work of the Bureau did not appear in publications bearing its own name. Some of it was done in collaboration with other bureaus of the government which published the results. The subject of coöperation with other services of the national government occupied an appreciable portion of the time and thought of the Census Bureau. For many years the consolidation of all, or nearly all, of the statistical work of the government into a central bureau of statistics had found advocates, and when the legislation making the Census Office a permanent establishment was under consideration, one of the arguments urged in its behalf was that the permanent office could act as a centralized statistical service and thereby eliminate much wasted effort and duplication. The idea has persisted, and periodically there have been surveys of the statistical work of the government in the attempt to prevent duplication and secure uniformity. One of these surveys, limited to the bureaus of the Department of Commerce and Labor engaging in statistical work, was begun in September 20, 1907, when the Secretary appointed for that purpose a committee composed of the Assistant Secretary, the Director of the Census, the Commissioner of Corporations, the Commissioner of Labor, the Chief of the Bureau of Statistics, Professor E. R. A. Seligman of Columbia University, Professor J. W. Jenks of Cornell University, and H. Parker Willis. No major changes resulted from this investigation, but the report on it, which was published by the Department of Commerce and Labor in 1908 with the title "Statistical Reorganization," contains much information on the relations of the various bureaus. Another survey of broader scope started in the following year when the President by executive order (No. 937, dated September 10, 1908) appointed an Interdepartmental Statistical Committee "for the purpose of promoting uniformity of statistical methods and results, preventing duplications, rendering possible closer coöperation, and keeping the statistical work of the government abreast of the most modern methods." Again, the work of the Bureau of

the Census was not noticeably affected by the survey, but the reply of its Director to the questions of the committee, which was published by the Bureau under the title "The Census Office and Co-ordination of Statistics," cast much light on this aspect of its work.

Among the many instances of coöperation between the Bureau of the Census and other services of the government during these years, in addition to those already mentioned, the most important included the following:

The compilation annually since 1905, in coöperation with the Forest Service, of statistics on the amount of lumber cut.

The preparation in coöperation with the Geological Survey, of a report on the developed waterpowers of the United States for the National Commission on the Conservation of Natural Resources.

The compilation of figures for a report by the Bureau of Labor on "Wages and Hours of Labor."

The compilation in 1904 of a bulletin for the Civil Service Commission on the executive civil service.

The compilation, with the Bureau of Navigation, of the decennial report on transportation by water.

The preparation, with the Interstate Commerce Commission, of the decennial report upon express business, and of the Census bulletin on "The Commercial Value of Railway Operating Property."

The census of mines and quarries, with the Geological Survey.

In all these cases the Director of the Census reported successful coöperation, but all attempts were not so fortunate. A general order of the Department of Commerce and Labor directing the Census Bureau to compile the annual statistics of immigration, in coöperation with the Bureau of Immigration, was issued on July 29, 1903. This was done for approximately two years. As the immigration authorities refused to permit the manifests to be sent to Washington for transcription, with the alternative result of delay and confusion or added expense of double transcription, the work was transferred back to the Bureau of Immigration, although the Director of the Census continued in his opinion that these statistics should be compiled by his organization.

There were also opportunities for coöperation with state statistical offices, a form of coöperation to which much attention was devoted in these early years, because a number of the states had

well-organized statistical bureaus whose work would simplify and supplement that of the Bureau of the Census if the two could be coördinated. An incident in the census of manufactures of 1905 illustrated this. The constitution of Michigan required a census of manufactures to be taken in the year 1904, some six months before the federal census of manufactures. It was obviously to the interests of both parties to prevent the waste of money involved in such a duplication of effort as well as to avoid needless annoyance to the manufacturers, but before the Bureau could act, it had to secure authority from Congress. This was requested and obtained through an act which authorized the Director to coöperate with the State of Michigan in getting results which would be acceptable to the United States as its census of manufactures for the year 1905 (33 Stat. L., 58). Permission was also given to the Director to coöperate with the officials of other states taking a similar census in so far as it might aid in the collection of the statistics of manufactures required of him by law. Using this authority an agreement was made by which the manufacturing schedule of the Bureau was accepted for use by Michigan, while the Bureau assumed the responsibility of correcting and compiling the returns and of defraying two-thirds of the expense of the field work. An almost identical agreement was made with the State of Massachusetts, which also had to take a census of its manufactures in 1905. Attempts, which met with varying degrees of success, were made to coöperate with state statistical bureaus on other subjects, notably labor statistics.³⁴

One of the tasks undertaken by the Bureau on its own initiative was estimating the population of the country and some of its various units in each year of the intercensal period. Estimates of population were needed for various reasons, principally to establish death rates in the report on vital statistics but also to give meaning to the statistics of cities and some of the other reports

³⁴ Discussions of the importance and of the problems of coöperation with the states may be found in the report of the Director of the Census, dated October 28, 1903, "Concerning the Administration of the Permanent Bureau," pp. 18-25; in his Annual Report for 1904, pp. 20-27, where the Director recommended the reenactment of that section of the census law which had been adopted to secure coöperation in the census of population; and in special reports that the Bureau published in 1903 under the title "Coöperation and Unification in Federal and State Statistical Work," and in 1904 under the title "Collaboration in Federal and State Statistical Work."

of the Bureau. Accordingly the plan was adopted of preparing and publishing estimates each year for cities of over eight thousand population, for states, and for the entire country. When the first results were announced, adverse criticism was aroused in certain cities where it was believed that the estimates of the Bureau were below the actual growth of the population. That the population of some of the cities was probably underestimated, was readily admitted by the Director, who pointed out that short of an elaborate and expensive survey the only safe plan for the Bureau was uniformly to assume the growth each year to be one-tenth of the decennial increase between the last two censuses or one-fifth of the quinquennial increase if the state took a census between the national censuses. The substantial accuracy of the estimates of the Bureau was proven by the censuses taken by thirteen states in 1905, which returned a total population within a fraction of 1 per cent of the Bureau's estimates, and two-thirds of which varied less than 4 per cent from the estimates.³⁵

In addition to other useful purposes the estimates of population assisted the census authorities in planning their organization to take the next census of population. Preparing for the next census was naturally one of the most important activities of the Bureau, and the one, above all others, for which the Bureau had been established as a permanent service. From the beginning of its existence the higher officers of the Bureau had started making plans for the census of 1910, and as that date approached active operations were initiated. These preliminary steps touched all phases of census work. The Division of Manufactures compiled and revised a complete list of the names and addresses of manufacturers to be used in connection with that canvass. The Geographer's Division played a particularly important part in preparing for the count of population, as it secured maps and detailed information showing the changes that had occurred in the minor civil divisions since the last census, and divided, tentatively at least, the country into supervisors' districts and enumeration districts. It also compiled data upon which to base the rates of compensation to be paid the enumerators of the Thirteenth Census.

³⁵ Director of the Census, Annual Report, 1906, p. 9. In a long letter addressed to the Secretary of Commerce and Labor, on May 19, 1904, the Director explained the necessity for making these estimates and defended the method employed.—*Ibid.*, 1904, pp. 28-31.

A notable feature of the preparatory work was the development of tabulating and punching machinery by the Bureau in its own machine shop. On July 1, 1905, all the apparatus owned by the Tabulating Machine Company was withdrawn from the Bureau because of a failure to renew the contract for its rental. The Director had contended that the royalties demanded were excessive and had requested from Congress an appropriation to permit him to develop machinery to be owned and operated by the government. Such a program was possible, because the original patents on the hand machines, which had been used in the Eleventh and Twelfth Censuses, expired in January, 1906. An appropriation of forty thousand dollars that could be used for "experimental work in developing tabulating machinery" was made on February 3, 1905 (33 Stat. L., 683). With this and later appropriations the work was carried on, at first in the mechanical laboratory of the Bureau of Standards, but from the early part of 1907 in the machine shop that was established in the Census building not only for this purpose but also to keep all the machinery in repair more effectively and cheaply than was possible through contracts with private concerns. The force employed was not large, consisting of an expert on patents of the type involved, secured from the Patent Office, to make sure no live patents were infringed, a foreman and an assistant foreman, and seven or eight mechanics and electricians.

The result of their efforts, which were guided and assisted by the various officers of the Bureau, who knew what details it would be desirable to record and who had had experience with the earlier machines, was that improved designs were ready before the next census.

No part of the preparatory work was more important than that which was devoted to securing the legislation that would govern the census. Although the act of 1899 had provided not only for the twelfth but also for subsequent censuses, new legislation was almost inevitable, and was in fact highly desirable, for the experience of the Bureau with the old law had shown the need for modifications at many points. To obtain the approval of Congress to these changes, after a careful study by experts had determined what they should be, and to head off harmful innovations, was no easy task.

By means of his reports and the testimony in committee hearings of himself and of the various experts of the Bureau, the Director informed Congress of the problems involved, of the weaknesses of the existing law and the new methods that could increase effectiveness, and of the urgent need for as much time as possible between the passage of the new legislation and the date of the census. In this work he was assisted by an advisory committee, composed of statistical experts not employed by the Bureau, which had been appointed in 1904 "to consult and confer with him in reference to the plans for the Thirteenth Decennial Census of the United States, with a view of eliminating the defects of previous censuses, determining its proper scope, and perfecting its methods."³⁶ A bill embodying the conclusions of the census officers and bearing the approval of this committee of statisticians was introduced in the House of Representatives in December, 1907, but did not complete its passage through the legislative processes until July 2, 1909.

The Census of 1910. The late date at which the new law (36 Stat. L., 1) was passed was particularly unfortunate on this occasion, because by one of the most striking changes effected by the law the date of the census was advanced from June first, where it had been since 1830, to April fifteenth, and nine months was an unduly short interval even with a permanent Census Bureau in existence. The shift in date was made on the recommendation of the Director on the ground that the habits of the urban portion of the population were such that an accurate count of them could not be taken on June first because of the number of summer absentees.

The act changed the scope of the census from that of 1900 by dropping vital statistics from the subjects to be canvassed and adding mines and quarries to the three subjects retained; population, agriculture, and manufactures. Repeated demonstrations of the worthlessness of the vital statistics obtained by the census enumerators in a house-to-house canvass and the success attending the annual collection of mortality statistics from registration officers were responsible for the elimination of the schedule on vital

³⁶ The report of the advisory committee, signed by Carroll D. Wright, Walter F. Willcox, Davis R. Dewey, and Willet M. Hays, on the census bill introduced into Congress is printed as an appendix to the House committee's report on the bill.—60 Cong., H. rep. 960.

statistics. Accordingly, since the law provided that the statistics on manufactures and mines and quarries could be collected by special agents, the enumerators in cities had to carry the population schedule only and those in country districts only that and the one on agriculture. This was a highly desirable result, as it permitted the enumerators to concentrate their attention on fewer instructions, and as the accuracy of the census depended largely on the burden placed upon the enumerator and the person answering the inquiries. The number and nature of the inquiries to appear on each schedule as specified in the law did not vary much from those of the preceding census. One significant addition to the inquiries on the population schedule, made by an amendment as late as March 24, 1910 (36 Stat. L., 877), required information respecting the nationality or mother tongue of all persons born in foreign countries and of the parents of foreign birth. The lateness of this amendment, less than a month before the count was to begin, increased expenses and magnified the opportunities for inaccuracy, already great in questions of this nature.

The administrative machinery provided by the new law was patterned closely in structure after that which had taken the census of 1900, but there were many improvements and refinements. Following the practice of the previous census the law provided that the three years beginning July 1, 1909, were to comprise the decennial census period during which the reports upon the inquiries were to be completed and published, and during which the Bureau of the Census was to have an emergency organization with large numbers of temporary employees. The outlines of this expanded organization were fixed by the law. It said that in addition to its permanent force there could be employed an Assistant Director, who was to be an experienced practical statistician, a geographer, a chief statistician, who was to be "a person of known and tried experience in statistical work," an appointment clerk, a private secretary to the Director, two stenographers, and eight expert chiefs of division. All these were to be appointed without examination by the Secretary of Commerce and Labor upon the recommendation of the Director of the Census, except the Assistant Director, who was to be appointed by the President with the advice and consent of the Senate.

The rest of the temporary force could consist of not more than one hundred clerks of classes two (\$1400), three (\$1600), and four (\$1800) and as many clerks of class one (\$1200); clerks, copyists, and skilled laborers, with salaries ranging from \$600 to \$1000 per annum; and messengers, unskilled laborers, and charwomen as might be necessary. Employees engaged in the compilation or tabulation of statistics could be paid on a piece-price basis, to be fixed by the Director of the Census. All were to be appointed by him in the order of rating on eligibility lists and in conformity with the law of apportionment provided for the classified civil service, except in cases of emergency, when the Director could appoint for sixty days, anyone from the list of eligibles who might be immediately available because of residence or other conditions. The lists of eligibles were to be prepared by the Civil Service Commission as the result of competitive examinations prescribed by the Director of the Census, but conducted in every state and territory by the Civil Service Commission. This change in the method of appointment represented a vast improvement over that used in previous censuses, for it not only freed the Director of the extraneous duty of conducting examinations but it also relieved him from an overwhelming number of solicitations for appointments that in the past had seriously interfered with his time at the most critical part of the census work. Freedom from pressure for jobs had been purchased at the price of delay, for a bill providing for the Thirteenth Census but with noncompetitive examinations for appointments to positions in the Census Bureau was vetoed for that reason by President Roosevelt on February 5, 1909.³⁷ Eventually the President won, but the new law providing for competitive examinations was not passed until the following July, one day after the decennial census period had begun.

The provisions of the law regarding the field force differed in only a few particulars from those of the previous census. The

³⁷ In his veto message the President cited the annual report of the Director of the Census for 1908, where the latter said: "A 'noncompetitive' examination means that every one of the many thousands who may pass the examination will have an equal right to appointment, and that personal and political pressure must in the end, as always before, become the determining factor with reference to the great body of these temporary employments. I cannot too urgently urge that the Director of the Census be relieved from this unfortunate situation."

maximum number of supervisors permitted was increased to 330. Their appointment was, as before, to be made by the President with the consent of the Senate, and their compensation was changed to a lump sum of \$1500 plus one dollar for every thousand persons enumerated in their districts. The number of enumerators was left to the discretion of the Director. They were to be appointed, and removed when necessary, by the supervisors with the consent of the Director. Although the method of compensating them was not changed, the rates were increased to from two to four cents per person enumerated and from twenty to thirty cents for each farm reported in some districts, while in others where the Director deemed these rates insufficient, he could pay a fixed sum of not less than one dollar or more than two dollars per day plus one to three cents per person enumerated and fifteen to twenty cents per farm reported. The third group composing the field force were the special agents, of whom the Director could appoint as many as he considered necessary. There were the customary legal restrictions relating to the pay, subsistence, and traveling allowances for the special agents. For all members of the field force the duties fixed by the law corresponded almost exactly with those assigned to them during the previous census.

Penalties of the usual nature were provided for false returns, disclosure of confidential information, or other misbehavior on the part of any of the employees of the Bureau. The penalties for individuals who refused to answer proper inquiries or who willfully gave false answers were repeated, as were those for the owners or officers of any manufacturing establishment, mine, quarry, or other industrial establishment who might refuse to supply information required for the census. In the latter case there was one innovation, however, for the law provided that those penalties should also apply to the information required and authorized by the permanent census act and its amendments.

Two other sections of the law affected the permanent establishment. By one, any doubt there may have been as to the complete power of the Director over the printing of census publications was ended, for he was specifically authorized to have printed at the Government Printing Office, in such editions as he might deem necessary, preliminary and other census bulletins and final reports of the results of the investigations authorized by the act providing

for the Thirteenth Census or by the permanent census act and its amendments. The other section provided that in the year 1915 and every ten years thereafter a census of agriculture and livestock was to be taken. This was to show the acreage of farm land, the acreage of the principal crops, and the number and value of domestic animals on the farms and ranges of the country.

On the whole the law supplied the Director of the Census with a strengthened and improved machine, leaving him less hampered administratively than most bureau chiefs of the government, and giving him most of the provisions he had recommended. Among the few of his recommendations which were not adopted, the most interesting was the proposal to reenact the substance of that part of the census law of 1880 which, to encourage the states to take quinquennial censuses of population, provided that the national government would bear a large proportion of the costs.

Just two weeks before the decennial period was to begin a new Director of the Census, E. Dana Durand, took the oath of office. He immediately was confronted with the task of appointing the supervisors and of raising and organizing the army of enumerators. As soon as the 329 supervisors in the continental United States and one in Porto Rico had been appointed, the Bureau proceeded through correspondence and conventions, held in convenient cities in different parts of the country, to instruct them in their duties, to divide their districts into enumeration districts, and to assist them in recruiting the enumerators. An examination was prescribed for persons wishing to qualify as enumerators. Like the one given in 1900 it was a strictly practical test, consisting of filling out schedules on the basis of information furnished, but unlike that of 1900, which was taken by the candidates in their homes, this one was taken under supervision either by the supervisors, or by special agents in their employ, or by the regular civil service examining boards. More than one hundred and sixty thousand candidates appeared at the examinations, and ultimately 70,286 enumerators were appointed. Examinations were also given to applicants for appointments as special agents, although in this case, too, the law did not require an examination. Two classes of special agents were appointed, one called chief special agents, who were to supervise the work of the ordinary agents in a certain district, which might be a large city or even an entire state. Some of

the work of supervising the agents taking the census of manufactures and mining was done by permanent employees of the Bureau, who were detailed to field work for that purpose. There were in all seventy-six regular clerks and 1227 special agents engaged in this work. In a few of the sparsely settled districts of the south and west, the population enumerators collected schedules of manufactures.

The office force expanded from about 650 employees, the number on the permanent staff at the beginning of the decennial census period, to a maximum of 3738, which was reached in September, 1910. From then on, the temporary employees began to be discharged, so that by June 30, 1911, the office force consisted of 2868 employees. A year later the temporary force was supposed to be completely disbanded, but as some of the essential parts of the work were still unfinished, Congress authorized the employment of 175 temporary clerks until June 30, 1913 (37 Stat. L., 406). Later, permission was given to exceed this number, and 265 temporary clerks were employed in May and June, 1913. When the temporary clerks were appointed it was found that in many states, particularly in the west and south, the number of persons who had passed the examination and would accept appointment was not sufficient to fill the quotas. Even after a second examination had been held, in many states it was impossible to adhere rigidly to the rule of geographical apportionment which Congress had written in the law, and disproportionate numbers were appointed from Maryland, Virginia, and the District of Columbia. The initial salary of practically all the temporary clerks was \$600 a year, but by a plan of promotion that had been adopted all those rendering satisfactory service were automatically promoted at intervals of two months to \$720, \$840, and \$900. A minority were later promoted to higher salaries, so that on June 30, 1911, forty-seven temporary clerks were receiving \$1200, 727 were receiving \$1000, and 1244 were earning \$900.

The taking of the Thirteenth Census produced no striking developments either in the methods employed or in the results obtained. More attention than usual was given to the publicity campaign immediately preceding the count to overcome the indifference of many citizens and the reluctance of others, especially recent immigrants, to give information. Advance schedules of population were

used extensively for the first time, being distributed to heads of families in practically all cities of 100,000 or more by the enumerators a day or two before April 15. Similar schedules for agriculture were distributed throughout parts of the country by postmasters, under an arrangement with the Post Office Department. Advance schedules were used to secure greater accuracy by informing the people exactly what information was wanted and by giving them an opportunity to prepare it and to save time for the enumerators, but it was found that only a small proportion of the families, particularly among the less educated classes, filled them out.³⁸ The returns of the enumerators went, as usual, to the supervisors for checking and revision and after that to the Bureau of Census. Population returns from over fifteen thousand of the 69,025 enumeration districts were received by the Bureau during May, and by the end of July, 68,137 districts had sent in their returns. The balance straggled in during the following two months.

As the populations of various cities were announced by the Bureau from time to time, the protests from local interests, which experience had shown were bound to be made, began to be heard. The Bureau scrutinized all the returns carefully, and when there was any evidence of padding or any suspicion of incorrectness, investigations were conducted, sometimes by the supervisor from whose district the suspected returns had come, but more often by expert employees from Washington. This revision resulted in lowering the populations of twenty-three cities, some of them very materially, and in raising slightly the populations of eight others. The most glaring case was Tacoma, Washington, whose population was originally enumerated as 116,270, but when the rechecking work of the expert agents was completed the figure was reduced to 82,972. The commercial organizations of the city made such a protest at this change that the Bureau agreed to make an entire reenumeration of the city. This was done in November and December under the personal supervision of William C. Hunt, the chief statistician for population. The result was a total of 83,743, or only a negligible increase over the previous figure of the Bureau. In districts where there was evidence of fraud, the facts were reported to the Department of Justice for court action. Ultimately a

³⁸ E. Dana Durand, "The Census Methods of the Future," in American Statistical Association, *Publications*, XIII, 568 (December, 1913).

large proportion of the persons indicted were convicted and punished.³⁹

The time spent in these investigations verifying the correctness of the returns ensured a high standard of accuracy but delayed the work of compiling and tabulating them. Another development that also was responsible for failure to realize the hopes of having the work completed earlier than ever before was that the new tabulating machinery did not entirely fulfill the optimistic expectations that had been based on it. Although constituting a great improvement over that used in previous censuses, numerous minor mechanical defects developed, causing delay and demonstrating the need for further improvements. This was particularly true of the automatic tabulating machines, so that most of the tabulation had to be done with machines to which the punched cards were fed by hand.

The first results given to the public were the figures of population in the cities, counties, and states, which the Bureau announced through the press. A change was made in the manner of presenting the full reports. The bulletins, instead of containing preliminary results, in general contained text, maps, percentages, and other explanatory material and constituted separate sections of the final census reports. This policy was adopted to save the expense of reprinting and to reduce the opportunities for misusing the statistics because of a lack of proper explanations. The abstract of the census was enlarged by including a large number of maps, diagrams, and comparative statistics. But the radical innovation was to issue the abstract in fifty-three editions, one without an appendix and the others each with a different appendix containing the census report on one of the states, or on the District of Columbia, Alaska, Hawaii, or Porto Rico. Each appendix included all the details which the Bureau intended to publish on the counties, smaller cities, and other minor subdivisions of the state, so that a person seeking all the data on any one state would find them together and not have to search through several large volumes. Most

³⁹ A discussion of the general reliability of the census of population and of the principal causes of error may be found in the annual report of the Director of the Census for 1910, pp. 19-34. In his report of two years later, pp. 23-26, and elsewhere, he advocated the use of mail carriers as enumerators in place of the temporary force customarily employed as the most fundamental change in method to improve the results of the census.

of all, this plan reduced printing expenses and prevented a wasteful distribution of reports, for one volume now answered all ordinary purposes and the complete twelve-volume set of final reports could be saved for reference libraries and extraordinary requests. The final census reports were made by binding together the chapters of the various state supplements. This new method of presenting the reports did delay their appearance, however, as all the statistics on manufactures and agriculture had to be prepared before any could be printed.

The law had stated that the reports were to be completed and published before the end of the decennial census period, but it soon became apparent that this requirement would not be met, or even approximately met, as had been the case in the Twelfth Census. The Bureau had requested a deficiency appropriation of \$1,000,000, but Congress appropriated only half that amount, and substantial portions of the work were left unfinished at the end of the three-year period.⁴⁰

While the decennial census was in progress the balance of the work of the Bureau of the Census suffered from the tendency to concentrate all efforts on the former. During the decennial period of three years the recurring and special investigations, which constituted the work of the Bureau in the intercensal years, necessarily formed part of the duties of the same men occupied with the decennial census. This situation was recognized in the act making the initial appropriation of ten million dollars for the Thirteenth Census, for it provided that the money was to be available during the decennial census period for all other census work authorized by law (36 Stat. L., 1). Some of the work, like the frequent reports on cotton production, went on without interruption. In other cases, such as the report on mortality statistics for 1909 or that

⁴⁰ In this as in most of the preceding censuses not all the data collected were used. One question on the population schedule called for the enumeration of all survivors of the Union or Confederate army or navy, but the returns were obviously so erroneous that the Bureau did not feel justified in publishing the results. Other questions, which had also been asked in the two preceding census, sought information regarding the number of children born to each woman and the duration of marriage, but in no instance did the Bureau have time or money to tabulate the answers. The data collected in 1900 were partially used, however, the results appearing in a report by Dr. Joseph A. Hill, chief statistician of the Division of Revision and Results, on the "Fecundity of Immigrant Women," published in 1911, in the Reports of the Immigration Commission, Volume 28.

on the statistics of cities for 1910, the reports were practically finished but not printed because sufficient appropriations were not available. In still other cases, like the financial statistics of cities for 1912 or mortality statistics for 1911 and 1912, the preparation and tabulation of the reports were unfinished or barely begun, so that the work was badly in arrears when the decennial period ended.

The Second Intercensal Period, 1913-1919. On July 1, 1912, the Bureau returned to its small permanent organization except for the temporary clerks whom Congress had permitted the Bureau to employ for one year longer in order to hasten the completion of the basic reports of the Thirteenth Census. At the end of that year the work on the reports was still unfinished and the regular work was still in arrears, so the Director sought outside advice on the way to bring all the work up to date. Two former Directors of the Census, S. N. D. North and W. R. Merriam, with Professor W. F. Willcox, who had been a chief statistician in the census of 1900 and had been connected with the work thereafter in many ways, and W. S. Rossiter, a former chief clerk, were appointed expert special agents, and together with D. C. Roper, the First Assistant Postmaster General, conducted an investigation of conditions in the Bureau. They recommended a number of expedients which they expected would enable the Bureau to publish all the delayed reports by the beginning of 1914. Following these recommendations the Bureau curtailed the remaining work appreciably by omitting an additional run of the population cards, thereby basing the report on occupations on the results of one run and reducing the tables and text, by omitting some of the tabulation and text that had been planned for the report on mines and quarries, by publishing the report on institutional population without percentages or interpretative text, by reducing the amount of detail in the annual financial reports on cities, and by publishing the reports on mortality statistics for 1911 and 1912 in a contracted form. In this way, the work of the Bureau was brought up to date during the fiscal year 1914.

A new Director of the Census, W. J. Harris, took the oath of office on July 1, 1913.⁴¹ He in turn was succeeded on March 16,

⁴¹ The resignation of Director Durand had been forced after the change of administration. Some discussion of the circumstances attending it may be found in the *Congressional Record* of August 10, 1916, pp. 12414-16, 12523.

1915, by Samuel L. Rogers, who continued in office until 1921. The office force in shrinking back to its permanent basis had to sustain a considerable number of demotions in rank and in salary, as, for example, instead of five chief statisticians and twelve expert chiefs of division there could now only be four of the former and eight of the latter. Because of this situation and because so large a proportion of the clerical employees were limited to the \$1200 class, the Bureau lost an unduly high percentage of its trained personnel. It continued to suffer in this way, for the entire period was one of rapidly rising prices and the salaries could not compete with those paid elsewhere. In the fiscal year 1916 only 17.4 per cent of the 563 positions on the statutory roll of the Bureau had salaries higher than \$1200 a year. The number of employees throughout the seven years of the second intercensal period varied from 594 in the fiscal year 1916 to 851 in the fiscal year 1919, usually being between six and seven hundred. Fluctuations were to be expected in view of the intermittent nature of some of the work, and in these years they were particularly great because of the extra tasks during the war.

As before, many of the clerks were shifted from division to division, depending on the statistical compilations in progress. In general the organization of the Bureau remained as it had been, but a few changes were made. At the end of the fiscal year 1914 the Division of Agriculture was merged in the Division of Statistics of Cities, as the work on the agricultural reports of the Thirteenth Census was practically completed and most of the staff had been employed on the wealth, debt, and taxation inquiry, which was under the supervision of the chief statistician for statistics of cities. During the fiscal year 1917, when it became time to prepare for the next census, the Division of Agriculture was restored as a separate unit. During the same year, in obedience to an act of Congress (39 Stat. L., 110), a new division known as the Division of Cotton and Tobacco Statistics was created. Congress later authorized the appointment of a fifth chief statistician to have charge of all the agricultural statistics (39 Stat. L., 1112). Thus, by the end of the intercensal period, the Bureau was divided into the following divisions: Administrative; Population; Manufactures; Vital Statistics; Statistics of Cities; Agriculture, Cotton and To-

bacco Statistics; Revision and Results; and the Geographer's Division.

The work during the second intercensal period paralleled roughly that of the first period, but many deviations, usually of minor importance, were made. The special reports, based on the Thirteenth Census and prepared after the basic census reports, presented no new departure.

No new developments appeared in connection with the decennial census and the quinquennial censuses taken during the intercensal period. The most important of the latter, the census of manufactures relating to the year 1914, was taken in 1915 without any unusual incident by a force of over thirteen hundred special agents. A quinquennial census of agriculture in 1915 had been ordered by the act providing for the Thirteenth Census, but early in that year this section of the law was repealed and no census was taken (38 Stat. L., 1040). The quinquennial census of the electrical industries for the calendar year 1917 was begun early in 1918 and was conducted as much as possible through correspondence so that the necessary field work was done by the permanent employees of the Bureau, except in one state where two special agents were employed. Part of the data for the decennial census of dependent, defective, and delinquent classes was collected by the population enumerators when taking the Thirteenth Census, the balance being obtained through correspondence after the decennial census period. The census of wealth, debt, and taxation relating to the years 1912 and 1913 occupied a field force of eighty-six for several months. The decennial census of religious bodies, covering the year 1916 was taken almost entirely through correspondence. In 1917 a decennial census of transportation by water during the previous year was taken largely by mail.

The biennial report, entitled the Official Register of the United States, which contained the names of all the employees of the government except those in the Army or Navy, was published during the second intercensal period. After the issue of 1913, the second volume of the report, which had included only the employees of the Postal Service, was abandoned by order of Congress (38 Stat. L., 224). This step was taken on the recommendation of the Director of the Census, who maintained that the efforts and expense required to obtain this information through correspondence with each

postmaster in the United States were too great in view of the slight practical value of the report. Other recommendations of the Director designed to simplify the work and to reduce its cost, as, for example, eliminating names of employees receiving less than \$2000 per annum, were not adopted by Congress until 1925, though frequently repeated.

More significant changes took place in the statistical investigations made annually or more frequently by the Bureau. Early in the intercensal period, July 22, 1912 (37 Stat. L., 198), a law was passed which appreciably extended the work of the Bureau in collecting statistics of cotton consumption and placed it on a new basis. This law directed the Director of the Census to collect and publish statistics "concerning the amount of cotton ginned; the quantity of raw cotton consumed in manufacturing establishments of every character; the quantity of baled cotton on hand; the number of active consuming cotton spindles; and the quantity of cotton imported and exported, with the country of origin and destination." It further directed that the reports on the quantity of cotton ginned should show the results up to ten dates between September 1 and March 1 specified in the act and that the reports on the other phases should be issued monthly. All of these publications were to be mailed to all cotton ginneries, cotton manufacturers, and cotton warehousemen and to all daily newspapers throughout the United States. The law also ordered the Director to furnish the Bureau of Statistics of the Department of Agriculture (now Bureau of Agricultural Economics) immediately prior to the publication of each crop report of that bureau with the latest available statistics collected by him so that they could be published in each crop report. The Director was instructed to compile by correspondence or by the use of published reports and documents any information concerning the production, consumption, stocks of cotton, and the number of cotton-consuming spindles in foreign countries. This act was repealed and superseded by the act of April 2, 1924 (43 Stat. L., 31).

To enable the Director of the Census to gather these statistics Congress attempted to supply him with the necessary authority. The law made it the duty of every owner, officer, or agent of any cotton ginnery, manufacturing establishment, or other place where cotton was ginned, manufactured, or stored to furnish completely

and correctly the information requested by the Director concerning the quantity of cotton ginned, consumed, or on hand. A willful failure to comply with one of these requests was made a misdemeanor punishable by fine and imprisonment. To reassure the persons involved that this information would not be used improperly, the law declared it strictly confidential and provided punishment by fine and imprisonment for any employee of the Bureau who might violate this confidence.

In the following year the Bureau arranged for an additional report on cottonseed and linters to show the amount of cottonseed crushed and linters obtained from the crop prior to December first of each year. Although no provision of the law required the collection of such statistics, the Bureau considered them as properly a part of the cotton crop report. Specific legal authority for their collection was given in the act of August 7, 1916 (39 Stat. L., 436), which directed the collection and publication, subject to a limitation in cost to \$10,000 per annum, of monthly statistics concerning the quantity of cottonseed received at oil mills, the quantity crushed, the quantity of crude cottonseed products and refined oil produced, the quantities of these products shipped from the mills, on hand, or held by refiners, manufacturers, dealers, or warehousemen. It also ordered the collection and publication of quarterly statistics of raw and prepared cotton and linters, cotton waste, and hull fiber consumed and of medicated cotton.

All these statistics were collected, as those of the previous periods had been, by the special cotton agents, located throughout the cotton belt in numbers that averaged between 700 and 750 during this period, and through correspondence.

Another agricultural commodity became the subject of regular and frequent statistical surveys by the Bureau under the terms of the act of April 30, 1912 (37 Stat. L., 106). According to it the Director of the Census was to collect and publish statistics of the quantity of leaf tobacco in all forms in the possession of all persons who were dealers or manufacturers, other than the original growers, on October first and April first of each year. Manufacturers of tobacco who in the preceding calendar year according to the return to the Commissioner of Internal Revenue manufactured less than fifty thousand pounds of tobacco, or less than two hundred and fifty thousand cigars, or less than one million cigarettes, or who

on the average had less than fifty thousand pounds in stock at the ends of the four quarters of the preceding year, did not have to make returns to the Bureau of the Census. The Director was instructed to distribute appropriate schedules to all persons subject to the act, not less than ten days before the first of October and April of each year, and the persons receiving them were to return them within ten days after those dates. A failure on their part to comply with a formal request of the Director, made by registered mail, constituted a misdemeanor and entailed punishment by fine or imprisonment.

The effectiveness of the work of the Bureau of the Census depended to a considerable degree upon coöperation with the Bureau of Internal Revenue. In addition to these two services the Bureau of Crop Estimates (now the Bureau of Agricultural Economics) of the Department of Agriculture also collected statistics on tobacco. An interdepartmental committee appointed to prevent duplication recommended that the Census Bureau discontinue its collection of statistics on tobacco. Although the Director of the Census approved this recommendation and urged Congress to pass the necessary legislation, that policy was not adopted. On the contrary in the following year Congress directed that the reports should be made quarterly instead of semi-annually, and specifically authorized the Director to use special agents or other employees, if he desired, in collecting tobacco statistics (39 Stat. L., 110). In 1918 the first of a series of annual bulletins was issued summarizing the statistics contained in the quarterly reports and adding data regarding production, consumption, imports, exports, prices obtained, and the international trade.

The collection of tobacco statistics was transferred to the Department of Agriculture by the act of January 14, 1929 (45 Stat. L., 1079).

In 1913 certain bureaus of the Department of Commerce and Labor were transferred to the newly created Department of Labor, and the residue of the old department became the Department of Commerce (37 Stat. L., 736). This legislation did not affect the Bureau of the Census in any way.

The work of the Bureau on vital statistics grew appreciably in the second intercensal period. The annual reports of mortality statistics were made more useful in a number of ways. For one

thing the area in which the registration records of the local authorities were tested and found acceptable continued to spread, so that in 1919 it included approximately four-fifths of the population of the country located in thirty-one states, the District of Columbia, the Territory of Hawaii, and in twenty-three cities in non-registration states. The statistics were presented in greater detail; for instance, separate figures were given for the white and colored races in areas where the colored population formed 5 per cent of the total or in cities where the colored population exceeded ten thousand. In October, 1917, the publication in mimeograph form of the Weekly Health Index was begun. This report gave the number of deaths reported for each week in forty-six of the largest cities, the death rate, the number of deaths of infants under one year of age, and the proportion of such deaths to the total. During the epidemic of influenza and pneumonia additional information concerning deaths from those two causes was given. A special monograph on cancer relating to the calendar year 1914 was published and one on influenza prepared. Throughout the entire period the work of preparing life tables, showing the death rate and expectation of life at each age, was continued.

The permanent census act of 1902 had authorized the annual collection of birth statistics, but the Bureau had not been able to carry out the intent of the law, since few of the states maintained sufficiently reliable birth-registration systems. Toward the close of 1915 a birth-registration area, comprising Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, Michigan, Minnesota and the District of Columbia and including about 31 per cent of the total population of the country was established and the statistics for that year and the following years were compiled. Other states after their birth-registration records had been tested by the Bureau and found adequate, were admitted to the area, so that by 1919 it included twenty states and the District of Columbia or approximately 53 per cent of the total estimated population. The educational campaign conducted by the Bureau through correspondence and through the publication of several pamphlets was continued without interruption with the purpose of informing state and local officials of the advantages of birth and death registration and of interesting doctors in the movement and in the use of a uniform nomenclature.

The annual estimates of population which were begun during the first intercensal period, partly because of the necessity of having them in figuring mortality rates, were continued during the second intercensal period with the same methods.

Little that was new appeared in the work of the Bureau on the statistics of cities. An annual report on the financial statistics of cities having a population of thirty thousand or more was published and, as in the past, an effort was made to secure data that could be used comparatively by sending agents of the Bureau to the various cities to translate into a standard classification the figures in their accounts and reports. Reports containing statistics on various phases of municipal government were issued, from time to time. In 1915 a report on general statistics of cities was issued, giving statistics and describing the character of government, the police department, liquor licenses and taxes, and the water-supply system of each. This was followed by reports on the recreational facilities of cities in 1916, fire departments, 1917, special sources of revenue, 1917, and municipal markets, 1918.

A new field of activity, closely allied to the collection of financial statistics of cities, was given to the Bureau, when in 1915 the Secretary of Commerce authorized the collection of statistics on the finances of states. For several years the annual reports of the Director of the Census had contained requests for authority from Congress to continue this work, one even stating that such authority could "be provided only by legislation."⁴² Bills granting authority were introduced into Congress, but none passed. Nevertheless, the work was continued and the reports were published annually. As in the case of the cities, agents of the Bureau visited the various state capitals in the attempt to secure comparable data and a number of the states adopted the census classification of receipts and expenditures.

One of the annual statistical reports was discontinued during the second intercensal period. This was the report on the production of lumber, lath, shingles, and other forest products, which had first been made for the year 1906 in compliance with an order of the Assistant Secretary of Commerce and Labor. The collection of the figures for the following year was directed by the Secretary of

⁴² Director of the Census, Annual Report, 1916, p. 28.

Commerce and Labor, but no further authorization was given. The work, however, continued and annual reports were prepared until 1913, when the committee of experts appointed to advise on ways of bringing the census work up to date recommended that this compilation be abandoned. This recommendation was followed by the Director of the Census and except for the year 1914, when forest products were included in the quinquennial census of manufactures, no further statistics on this subject were collected by the Bureau during these years. They were, however, compiled by the Forest Service.

As in the first intercensal period the Bureau was called upon to do some special work in addition to its regular collection of statistics. In these years the extra work was particularly heavy because of the World War. Of the special work other than war activities, the following will serve to illustrate the nature of the compilations and the connection of the Bureau with them. Statistics of marriage and divorce were collected in 1917 through correspondence with local authorities. It was originally planned to compile the statistics for the ten-year period ending with 1916, but due to the pressure of war work only the data for 1916 were collected and published. In April, 1915, a census of Tulsa, Oklahoma, was taken by direction of the President at the request of the Tulsa Commercial Club, the entire expense being met by the city and the work being done by local enumerators under the direction of an employee of the Bureau of the Census. This was the first instance of participation by the national government in the enumeration of the population of a city between decennial censuses. Other instances followed, and during the remaining years of the intercensal period the Bureau supervised censuses of Hamtramck, Highland Park, and St. Clair Heights, all in Michigan; Hastings, Nebraska; El Paso, Texas; Shreveport, Louisiana; and Okmulgee, Ottawa and Tulsa counties in Oklahoma. A census of the Virgin Islands, including population, agriculture, manufactures, fisheries, and wages and hours of labor was taken in 1917, on the order of the Secretary of Commerce and under the supervision of employees of the Bureau. On the request of the Bureau of Chemistry of the Department of Agriculture a canvas of the manufacture of edible oils from seeds other than cotton-seed was made for the year 1916. A collection of statistics

relating to the fisheries of New York City was made in 1917 in coöperation with the Bureau of Fisheries.

By far the most important of the special work of the Bureau during this period was its war service. These activities can be classified into two main groups, those relating to economic resources and those involving man power. To supply information needed by various war agencies the Bureau collected statistics on the following commodities: Kapok fiber; jute; nitric acid and other acids and materials used in the manufacture of explosives; leather stocks; boots, shoes, and manufactured leather goods; silk; antimony; graphite crucibles; wool manufactures and wool machinery; and iron and steel products. On some of these commodities, as on jute, a single report was made, but on others reports were made frequently. Figures on leather stocks and on stocks of boots, shoes, and manufactured leather goods were compiled monthly from June to December, 1918, and quarterly from January to June, 1919. For the Provost Marshal General the Bureau made estimates of population to be used in connection with the registration of men subject to military duty and with the apportionment of the draft. Estimates were also made at different times of the numbers of men in certain age groups. The allotment of the 117,974 men, who had enlisted in the regular army between April 2 and June 30, to the credit of the quotas of the states was done by the Bureau at the request of the Provost Marshal General. Some employees of the Bureau supervised clerks of the War Department in making an occupational classification of the draft registrants. The records of the Bureau were frequently searched at the request of district attorneys or draft boards to determine the ages of registrants. The Bureau also gathered data on commercial greenhouses for the use of the Priorities Division of the War Industries Board, made a canvass of the production of dental gold, gave the Fuel Administration data showing the kinds and quantities of coal consumed by establishments using more than one hundred tons per annum when the last census of manufactures was taken, and performed a host of minor services for various branches of the government.

While under the pressure of all this extra work and amid the general confusion and uncertainty attending the war, the Bureau

had to begin its active preparations for the decennial census of 1920. The possibility of having to take the census while the country was still engaged in war presented serious problems, and during the congressional hearings on the bill providing for the Fourteenth Census, consideration was given to a proposal to restrict greatly the scope of the census. Fortunately the census for which the Bureau was preparing was taken under more normal conditions. The preparations begun by the Bureau during the intercensal period covered the entire range of activities involved from drafting the schedules to be used to deciding problems of method and technique. In the latter the Bureau had the benefit of the advice and guidance of a committee composed of W. S. Rossiter, C. W. Doten, and E. F. Gay, representing the American Statistical Association, and W. C. Mitchell, E. R. A. Seligman, and W. F. Willcox, representing the American Economic Association. Some of the preparatory work had extended all through the intercensal period, such as the efforts of the Geographer's Division to keep abreast of all the changes made in the boundaries of the political divisions and subdivisions of each state. Another instance of preparatory work actively carried on throughout the entire period was the service of the mechanical laboratory in perfecting, designing, and constructing machinery in addition to keeping in repair the machines already owned by the Bureau. A committee including the chief statisticians of the Bureau went over the law providing for the Thirteenth Census phrase by phrase, and, using it as a model, drafted a bill to provide for the Fourteenth Census.

After some amendments were added in Congress this bill became a law on March 3, 1919.

The Census of 1920. Again it was unfortunate that the legislation governing the census was delayed so long that insufficient time was left in which to raise, organize, and train adequately the army of enumerators required as well as to make the other preparations as thorough as desirable. The time was especially short in view of the fact that abnormal conditions resulting from the war still prevailed. A little less than ten months intervened between the date of the law and the date of the count of population; for one of the changes made by the law was to advance the date of the census from April 15 to January 1. This shift was made because January

was considered a much better date for the agricultural census, being nearer to the crop on which data would be collected and at a time when farmers were generally less busy.⁴³

Although the law (40 Stat. L., 1291) was in the main a re-enactment of the act of 1909 providing for the Thirteenth Census, there were numerous minor changes and a few important ones incorporated in it. Two of the most significant innovations affected the work of the Bureau during the intercensal period rather than the decennial census. One provided that there should be a census of manufactures taken for the year 1921 and for every second year thereafter, instead of quinquennially. The second ordered a census of agriculture and livestock in 1925 and every ten years thereafter and authorized the Director of the Census to appoint enumerators or special agents for that purpose.

Several interesting changes were made by the law in the scope of the census. Provisions requiring information in regard to unemployment on the date of the census and during the preceding year and in regard to survivors of the Union or Confederate Army or Navy were dropped because of experience in the previous census. The provision requiring an enumeration of the inmates of institutions for dependent, defective, and delinquent classes on the same date as the count of population was also omitted and this survey was postponed to the intercensal period. New provisions were inserted requiring data as to encumbrances on homes and farms, amplifying the inquiry on irrigation, and adding an inquiry on agricultural drainage. The law also extended the census to Guam, Samoa, and the Panama Canal Zone, and provided that it was to be taken in those places by the respective governors in accordance with plans prescribed or approved by the Director of the Census.

While repeating most of the provisions of the previous law, like that creating the position of Assistant Director during the decennial census period, which was again fixed as the three years beginning the first of July preceding the census, a number of changes were made affecting the organization and personnel of the Bureau, or Census Office, as the law still called it. The Director was author-

⁴³ It was a mistake to change the date, the Director of the Census afterwards stated on several occasions, including his Annual Report, 1922, p. 41.

ized to appoint as many temporary clerks as necessary to positions divided into nine classes with salaries ranging from \$900 to \$1800 per annum, provided the total number with salaries at \$1440 or more was at no time to exceed 150. Appointments were to be made as before, as the result of examinations prescribed by the Director but held by the Civil Service Commission and in accordance with the laws of geographical apportionment and of preference to honorably discharged soldiers and sailors. One important change was made in the legal provisions respecting the field force to be used in taking the census. The supervisors were now to be appointed by the Secretary of Commerce upon the recommendation of the Director instead of by the President with the advice and consent of the Senate. The maximum number that could be appointed was increased to four hundred. In practically all the other points affecting the field work the law remained essentially as it had been. In cities having a population of twenty-five hundred or more at the last preceding census the enumeration had to be completed within two weeks; a similar time limit in the 1910 Census act applied to cities of less than five thousand population.

The sections providing penalties for persons refusing to supply requested information or for supplying false returns were re-drafted so as to be more effective. The new version included a provision aimed at local commercial interests by fixing a penalty for the offer of any suggestion, advice, or assistance by any individual, committee, or other organization with the intent or purpose of causing an incorrect enumeration to be made. It also specifically mentioned religious bodies among the organizations, the officers of which had to supply requested data or be subjected to punishment by fine and imprisonment. This remedied one defect in the previous census of religious bodies, which contained no figures for one group.

Despite the unsettled condition of economic and social life still remaining from the war, the census of 1920 was taken successfully and without disturbing incidents. It involved, in the words of the Director in his annual report for 1921:

. . . the printing and distribution of 25,000,000 schedules of questions; the organization and supervision of a force of over 90,000 enumerators and special agents employed to make a house-to-house canvass of the entire United States—including all the outlying

possessions except the Philippines and the Virgin Islands—and to fill out schedules for 107,500,000 people, 6,500,000 farms, 450,000 manufacturing establishments, 22,000 mining and quarrying enterprises; the examination, checking, and editing of the schedules when received; the punching of 300,000,000 tabulation cards; the running of the equivalent of over 2,500,000,000 cards through electrical sorting and tabulating machines; the computation of about half a million percentages, averages, and other rates; the preparation of elaborate manuscript tables; and, finally, the printing and publication of twelve quarto volumes averaging about a thousand pages each.⁴⁴

The initial process of this gigantic task met with obstacles which threatened to delay the completion beyond the decennial census period. The work of enumeration was not completed until long after the limits fixed by the law; namely, thirty days in rural districts and two weeks in places of twenty-five hundred population at the last census. Three months after the date of the census the enumeration was incomplete in eighteen hundred of the 87,234 enumeration districts and at the end of June, five months after the legal limit, 245 districts were still unfinished. Several causes were responsible for the slow progress of this part of the census. The severe winter weather and pandemics of influenza retarded the work considerably, but the most important factor was the inability of the Bureau to pay enough to secure the proper type of persons as enumerators. The rates of pay had been left as they had been in 1910 and although the maximum of each kind was given in practically all the enumeration districts, the increase in the general level of prices and wages had been such that even the maximum rates were not sufficiently attractive to induce qualified persons to accept employment, especially in rural sections. In many parts of the country the supervisors were compelled to designate persons who had not obtained the rating required in the test given to applicants, and in some instances it was necessary to assign two or more enumeration districts to one enumerator, thereby postponing the completion of the count.

The actual count began on January 2, 1920, when the enumerators went from house to house in their districts writing the replies

⁴⁴ Many of the details concerning the work of the Bureau in the census of 1920 are given in the following chapter.

to their inquiries on the population schedules. This schedule consisted of a large sheet with space for data for one hundred individuals, fifty on each side and contained the following twenty-eight items:

Place of Abode.

1. Street, avenue, road, etc.
2. House number, or farm, etc.
3. Number of dwelling house in order of visitation.
4. Number of family in order of visitation.

Name.

5. Name of each person whose place of abode on January 1, 1920, was in this family.

Relation.

6. Relationship of this person to the head of the family.

Tenure.

7. Home owned or rented.
8. If owned, free or mortgaged.

Personal Description.

9. Sex.
10. Color or race.
11. Age at last birthday.
12. Single, married, widowed, or divorced.

Citizenship.

13. Year of immigration to the United States.
14. Naturalized or alien.
15. If naturalized, year of naturalization.

Education.

16. Attended school any time since September 1, 1919.
17. Whether able to read.
18. Whether able to write.

Navtivity and Mother Tongue.

19. Place of birth of person.
20. Mother tongue of person.
21. Place of birth of father.
22. Mother tongue of father.
23. Place of birth of mother.
24. Mother tongue of mother.

Ability to Speak English.

25. Whether able to speak English.

Occupation.

26. Trade, profession, or particular kind of work done.
27. Industry, business, or establishment in which at work.
28. Employer, salary or wage worker, or working on own account.

The handicap placed on the Bureau by the slow progress of the field work was overcome by the rapidity with which the balance of the work was performed. By the end of the three years of the decennial census period several of the final reports had been issued and all the manuscript for the balance was in the hands of the printer. A large portion of this material had, however, already been printed and distributed as bulletins, and the more important and fundamental figures had been made public as soon as ascertained through the medium of press announcements. The practice of distributing information to the newspapers was used more extensively in this census than ever before, over twelve thousand press summaries being released by the Bureau. Among these were the preliminary announcements of the total population of the United States made on October 7, 1920, about nine months after the canvass, and the revised announcement made in the following December. One factor contributing to the relatively early appearance of the final reports was the policy, adopted by the Bureau on the recommendation of the advisory committee composed of eminent statisticians and economists, of including only the very small amount of text necessary to explain the terms used and to prevent misunderstanding of the figures. These basic reports were followed by a series of interpretative studies or monographs.

The office force of the Bureau exceeded that of any previous census in size. From 779 employees in Washington on July 1, 1919, the number increased until the maximum of 6301 was reached in August, 1920, and then began the process of reduction, which continued until June 30, 1922, the end of the decennial census period, when 831 employees were left. Because of the rapid turnover even these figures give an inadequate picture of the stream of employees going through the office; for during the three years of the decennial census period 9173 persons separated from the service. The vast majority of these employees were clerks and operatives, all of whom were appointed through civil service channels. Unlike the experience with the field force there was no difficulty in securing applicants for the office force. Indeed, the contrary was true, since the liquidation of the forces of the temporary war organizations left an unusual number of persons in Washington in search of employment.

In 1921, after the new national administration was installed in office, William M. Steuart became Director. Mr. Steuart had been appointed Assistant Director in 1919 and prior to that time had served many years as one of the chief statisticians of the Bureau.

Among the features of the Fourteenth Census that were new or of special interest, several illustrated the continued development of tendencies that had long been visible. For the first time the data on agriculture and on manufactures were tabulated by the use of punch cards and electrical tabulating machinery. No one card could provide for all the items on either schedule and it was necessary to use seventeen sets of cards for the entire agricultural schedule and twelve for that on manufactures.

The instances of "padding" the population returns of certain cities, which had caused so much trouble for the Bureau in the census of 1910, were not repeated, although a careful scrutiny was given to the returns for evidence of improper inflation. But extra work was given to the Bureau by the protests made in behalf of about three hundred places by business organizations and others which claimed the populations announced by the Bureau were too low. The policy adopted by the Bureau in the handling of complaints from large or medium sized cities was to require a canvass to be made of a selected area so as to secure the names of all residents within that area who believed themselves omitted by the enumerators. This list of names was then sent to the Bureau, where it was compared with the census returns. If it was found that any considerable number of names were missing from the census returns, the supervisor for the district concerned would be directed to interview, through a sworn census employee, the persons omitted for the purpose of enumerating those who had been bona fide residents on January 1, 1920. In the case of small towns, especially those with not more than twenty-five hundred inhabitants, the Bureau suggested making a list of the names and addresses of all the population, as of January 1, 1920. If this revealed any significant number not already included in the census records, the Bureau canvassed those additional persons for the purpose of officially enumerating them. The corrections that the Bureau found it necessary to make were relatively insignificant, both in total amount and in their effect upon the populations of the localities concerned.

While the Bureau naturally had to devote most of its time and energy to the gigantic task of taking the decennial census, it also had to carry on its other activities during the decennial census period. This it managed to do without letting any appreciable quantity fall in arrears, even though new investigations added to its activities. No innovations appeared in the work of collecting and publishing vital statistics. The regular annual reports on birth and death statistics, the weekly health index, and an occasional special report, such as one on the standard nomenclature of diseases, were prepared and issued. Several more states were added to the birth and death registration areas. Equally uneventful during these three years was the work of the Bureau on cotton and tobacco statistics, reports being prepared at the same intervals and by the same methods as in the past. The biennial edition of the Official Register was published without incident in 1921.

An attempt was made by the census authorities to change the method used in collecting the annual financial statistics of cities and states so as to share the expense with the cities and states. Because of the rush of work in connection with the decennial census no reports on cities and states were compiled for the fiscal year 1920, and when resuming the work in the following year the Bureau, instead of sending agents to take the data from the financial records of the various localities, asked the city and state officers to furnish the data themselves in a simplified form on schedules prepared and mailed by the Bureau. Since many had stated that the reports were of great value to them and since the reports were primarily for their benefit, it was thought that they should coöperate to the extent of supplying the data from their own books. But although some city and state officers agreed to do this, the great majority declined, failed to fulfill their promises of coöperation, or sent in unsatisfactory returns, and the work was temporarily held in abeyance.

The most interesting development in the non-decennial census work of the Bureau during these years was the addition of a number of commodities to those on which the Bureau was already making regular and frequent reports. Some of them had been the subjects of statistical reports during the war period, and the reports were continued or resumed usually at the request of the producers or of trade associations. The emphasis placed on this

work was materially increased after the new Secretary of Commerce took office in 1921. Statistics on the production, consumption, and stocks of fats and oils had been collected during the war by the Food Administration. Beginning in 1919 the Bureau, on the order of the Secretary of Commerce assumed this task and issued a mimeographed report quarterly. When, in June, 1919, the Bureau of Markets (now the Bureau of Agricultural Economics) of the Department of Agriculture found itself without funds to continue the monthly reports of active and idle wool machinery which it had been making during the war, the Secretary of Commerce, upon the representation of the American Association of Woolen and Worsted Manufacturers and the National Association of Wool Manufacturers that these reports were of much value, directed the Bureau to compile these statistics. The Bureau continued to issue these reports monthly, in mimeographed form, throughout the period, and in May, 1922, it took over from the Department of Agriculture the collection and publication of monthly statistics of wool consumed by manufacturers and quarterly statistics of wool stocks held by manufacturers.

Statistics of leather stocks and of boots, shoes, and other manufactured leather goods had been compiled monthly by the Bureau during part of 1918 and quarterly during the first half of 1919. The work in this field was resumed in obedience to an act of Congress dated June 5, 1920 (41 Stat. L., 1057). By it the Director of the Census was ordered to collect and publish statistics monthly concerning the quantities and classes of hides and skins owned or stored and disposed of by packers, abattoirs, butchers, tanners, jobbers, dealers, wholesalers, importers, and exporters; the quantities and classes of hides and skins in the process of tanning or manufacture, the quantities and amount of finished product; and the quantities and classes of leather owned, stored, and manufactured by tanners, jobbers, dealers, wholesalers, importers, exporters, and establishments cutting or consuming leather. At the request of boot and shoe manufacturers and dealers the statistics were extended in November, 1921, to include the production of boots and shoes. And in June, 1923, the Bureau began to issue separate preliminary reports giving data on the production and stocks of harness leather, skimmers, and of sole and belting leather, information that had previously been collected and published by the Tanners'

Council. In 1921 the Bureau, in coöperation with the Forest Service, resumed the collection of the annual statistics on forest products which it had discontinued in 1913. Still another commodity was given to the Bureau in 1922, when the Secretary of Commerce, at the request of the National Fertilizer Association, directed the preparation of a semi-annual report on the production and stocks of sulphuric acid and acid phosphate used in the manufacture of fertilizers.

A publication started a few months after the new Secretary of Commerce took office was the monthly Survey of Current Business. In it were assembled statistics of production, stocks, sales, and prices, which were collected independently by various government bureaus, trade associations, and other organizations. These figures were reduced to a common denominator by the use of index numbers so that they would be comparable from month to month and from year to year. Some of the statistics were those collected by the Bureau of the Census and issued by it in the mimeographed commodity reports. They, or at least the basic figures, were now made available in printed form to the general business world at a low subscription price. As the Survey of Current Business became better known, more trade associations offered to furnish data on their respective industries, and more and more material was included in it. By the end of the decennial census period it was being distributed to over four thousand subscribers and to newspapers, trade associations, and all representatives of the United States Consular Service abroad.

The act providing for the Fourteenth Census directed the biennial collection of statistics of the products of manufacturing industries beginning with those for the year 1921. Preparations were made during that year, and early in 1922 the collection of the data was begun, so that by July first, the field work was practically completed. The number of inquiries and the subjects covered were radically reduced from those for 1919, which had been covered in the decennial census. In the hope of making the results available speedily and of reducing expenses the Bureau made an effort to have as many returns as possible filled in by the manufacturers themselves and sent to the Bureau by mail. By this means about 42 per cent of the schedules were secured by mail as compared

with 37 per cent in 1920, the balance being obtained by the special field agents of the Bureau.

Prior to the biennial report for 1921 the census of manufactures had included the tabulation of all data on establishments producing goods valued at more than \$500. At the census of 1921 no tabulations were made for establishments with products valued at less than \$5000 except in the case of number of wage earners and value of products. In the tabulation of the censuses of 1923, 1925, and 1927 value of products only was tabulated for establishments producing less than \$5000. This change reduced the work and facilitated the compilation of the statistics without affecting the comparability of the statistics, as the large number of small plants had a relatively small output and employed comparatively few persons.

The Third Intercensal Period, 1922-1927. When the office force was expanded during the decennial census period the experienced permanent clerks supervised the temporary employees and had an opportunity for higher salaries. Consequently, when at the beginning of the intercensal period it was necessary to adjust the permanent force back to the low salaries fixed by Congress, many employees had to accept reductions in pay. The result was that the experience at the close of the Thirteenth Census period was repeated, and the Bureau suffered the loss of an unduly high proportion of its experienced force. In describing the situation in his annual report for 1922 the Director stated that "between July 1 and September 15, 1922, the Bureau lost 75 of its 764 clerical employees—one-tenth of the total—the majority of them having obtained employment in other bureaus or offices at higher salaries."⁴⁵ The damage so frequently mentioned in the annual reports of the Director, that the Bureau suffered from its low salary scale compared to those prevailing elsewhere in the federal service, was one of the evils that the Classification Act of 1923 was intended to correct as well as to supply proper administrative machinery for handling the personnel problem of the government.⁴⁶

⁴⁵ P. 30.

⁴⁶ In his annual report for 1924 the Director of the Census stated that this inequality in salary scale still persisted after reclassification, to the great detriment of the Bureau.—Pp. 30-31. This statement was repeated several years later in the House Hearings on the Department of Commerce appropriation bill, 1928, p. 15.

With the expansion of its activities the Bureau grew in size. The fluctuations in the office force from year to year were also much greater, because of the increased number of intercensal inquiries, like the census of agriculture and the biennial census of manufactures, which necessitated the employment of special and temporary employees. On June 30, 1926, there were 985 employees in the office force of the Bureau, including 694 officers and clerks, eighteen experts and assistants in the mechanical laboratory, six special agents, and 267 temporary employees engaged on the work of the censuses of agriculture, of manufactures, and of religious bodies. A year earlier there had been 1056 temporary employees working on the census of agriculture, half of them being operatives of the tabulating machinery, who were paid on a piece-price basis. The field force, with the exception of the special agents collecting cotton statistics, varied greatly in number according to the work being done. The peak in the field force was reached in 1925 during the census of agriculture, which required the services of approximately twenty-five thousand temporary employees. On June 30, 1926, the field force numbered 1676 and was composed of 723 special cotton agents and 953 temporary special agents employed in the census of manufactures for 1925 and in the various other investigations in progress. Of the latter, five hundred were persons who were connected with chambers of commerce or similar organizations and who received only \$1 per annum from the Bureau, while ninety-one were employees of other departments of the government who served the Bureau without compensation.

Immediately following the World War many efforts were made to reduce the number and cost of the numerous activities of the government and to eliminate duplication. The most ambitious plan, which was not adopted, provided for the reorganization of the entire administrative branch of the government at one time. According to it the Bureau of the Census could have been expanded into a central statistical bureau such as had been widely discussed when the Bureau was made a permanent establishment.⁴⁷ The duplication and alleged duplication of statistics by various bureaus of the government received much attention, both in and out of Congress, but no radical or important changes were made. In

⁴⁷ 67 Cong., S. doc. 302.

obedience to an order of Congress the Bureau of Efficiency made a survey of the statistical work of the government, and its report, submitted in 1922, repeated the recommendation that the Bureau of the Census be expanded into an agency for the collection, tabulation, and dissemination of all non-administrative statistics.⁴⁸

The work of the Bureau during the third intercensal period has so far undergone a number of minor alterations, but in all important respects it has continued its course in the direction and manner of the previous years. Perhaps the most notable general development has been the collection by mail of more and more of the wide variety of statistics occupying its attention during the intercensal years. This requires coöperation on the part of those requested to fill out the schedules, which was obtained in the vast majority of cases, although the refusal of a small number of manufacturers to supply data for the monthly Survey of Current Business led the Director, in his annual report for 1924, to request legislation specifically authorizing the collection of such data so that the penalties fixed by law could be invoked.

Since many of the details concerning the recent work of the Bureau will be given in the following chapter to illustrate the activities of the Bureau, no account of them need be included here. In general the tendency to collect more and more statistics on a constantly growing number of subjects, which had been evident ever since the taking of the First Census and was particularly strong after the establishment of the Bureau as a permanent organization, has continued. Thus, new commodities, as, for example, paint and varnish, were added to those on which statistics were regularly collected; the monthly Survey of Current Business was expanded to include many new items in addition to its already long list; and annual statistics of marriage and divorce were compiled since the calendar year 1922.

In December, 1926, the Bureau began the collection of figures on distribution, or the mechanism by which goods are brought to the consuming public. The first work was done in Baltimore, and later

⁴⁸ 67 Cong., H. doc. 394. A more comprehensive survey, giving in detail the scope of past statistical work as well as the current, can be found in L. F. Schmeckebier. *The Statistical Work of the National Government* (1925). Institute for Government Research, Studies in Administration.

the investigation was extended to sixteen other cities, the complete list being as follows:

Alameda, California	Kansas City, Missouri
Atlanta, Georgia	Oakland, California
Baltimore, Maryland	San Francisco, California
Berkeley, California	Seattle, Washington
Central Falls, Rhode Island	Springfield, Illinois
Chicago, Illinois	Syracuse, New York
Denver, Colorado	Pawtucket, Rhode Island
Fargo, North Dakota	Providence, Rhode Island
Kansas City, Kansas	

Separate tabulations were made for wholesale and retail establishments, and detailed figures by kinds of business were compiled, relative to sales, merchandise outlets, number of establishments, employees, wages, and inventories.

All the figures are for the calendar year 1926. The work was largely of an experimental nature in order to test the feasibility of the undertaking. The act for the Fifteenth Census provides for a census of distribution as part of the decennial enumeration.

No reports on the censuses of distribution have been printed by the Bureau, which has issued only preliminary advance statements in mimeograph form, except in the case of Baltimore, for which final figures were made public. The complete reports, also in mimeograph form, have been issued by the Domestic Distribution Department of the Chamber of Commerce of the United States.

Some exceptions to the prevailing tendency to extend the collection of statistics to new fields were noticeable. The majority of the manufacturers of a number of commodities, such as carpets and rugs, internal-combustion engines, pianos and organs, typewriters, and shirts, collars and cuffs, did not think it desirable, when canvassed by the Bureau, to undertake to supply data for the compilation of current statistics concerning the production and stocks of commodities. An attempt to compile decennial statistics on building and loan associations met with failure, because so large a proportion neglected to fill out and return the schedules sent to them by the Bureau and because the investigation was not considered important enough, nor were appropriations available, to send special agents into the field to collect the data.

The desire of the Bureau to have the benefit of outside expert advice has led to an increased use of advisory committees during

the last few years. The general advisory committee, composed of representatives of the American Economic Association and the American Statistical Association, which had been created just before the Fourteenth Census, continued in existence as a permanent body after the close of the decennial census period and was frequently consulted, both by mail and at meetings, particularly on matters of general policy. Another committee of specially qualified men was organized in 1924, to advise the Bureau in matters relating to graphs and the delineation of enumeration districts. A third advisory committee, composed of state and municipal fiscal officers, was organized to aid the Bureau in collecting and publishing financial statistics of states and cities. Another standing advisory committee was created to give the benefit of its advice on the cotton statistics collected by the Bureau and on the problems met in their collection.

One of the most interesting developments of recent years has been the rapidly increasing number of requests made to the Bureau for information contained in the population records of past censuses which are in the custody of the Bureau. Old census records had previously been used on occasion to determine the age of applicants for military pensions, and during the World War, of persons whose draft status was questioned. The motives for the searches at present are chiefly the desire to obtain data for genealogical purposes or to secure evidence that can be used in the settlement of estates or occasionally in criminal cases. The law of March 3, 1919, providing for the Fourteenth Census, authorized the Director, at his discretion, to furnish the governor of any state or any court of record with certified copies of desired portions of the population or agricultural returns upon the payment of the actual cost of making the search plus one dollar for certification, and upon the same terms to furnish individuals such data from the population schedules as may be desired for genealogical or other proper purposes, provided that in no case should the information furnished be used to the detriment of the person or persons to whom the information relates. The extent to which this authority is used is indicated by the fact that during the fiscal year 1926, the Bureau made or assisted in making 6751 searches of census volumes. The records for all of the censuses up to and including 1870 are open to general inspection, and during the same year 2216 per-

sons were permitted to search them, but the records of later censuses are not yet open because the information in them was furnished on the understanding that it would be treated as confidential.

The Census of 1930. Preliminary plans for taking the Fifteenth Census were prepared in 1927, and the bill was introduced in the House of Representatives on December 5, 1927, at the beginning of the first session of the Seventieth Congress. The Committee on the Census held extended hearings in the spring of 1928, and the bill was reported to the House on May 2. It passed the House on May 21, but no action was taken in the Senate at that session.

The bill was reported to the Senate early in the second session of the Seventieth Congress, on December 12, 1928. It was never discussed in detail on the floor, and toward the end of the session announcement was made by a Senator interested particularly in reapportionment that he would not consent to a vote on the census bill unless the Senate acted on the apportionment bill also.⁴⁰ As it was evident that no agreement could be reached on the apportionment bill all efforts to pass the Census bill were abandoned.

When the Seventy-First Congress convened in April, 1929, the bill was introduced in the Senate on April 22, there being included both provisions for taking the Census and for the reapportionment of members of the House of Representatives. The bill was reported to the Senate on April 23; passed the Senate on May 29; and passed the House of Representatives with amendments on June 6. It was sent to conference immediately, but the final action on the conference report was not taken until June 13. The bill was approved by the President on June 18 (Public No. 13, 71st Cong.).

Differences between House and Senate Bills. The differences between the bill which passed the House during the Seventieth Congress and the one which passed the Senate during the Seventy-First Congress were in the main as follows:

The date for taking the census was fixed in the House bill as May 1, 1930, and in the Senate bill as November 1, 1929, with the provision that the Director of the Census could change the date for beginning the enumeration in districts where climatic or other

⁴⁰ No apportionment bill was passed after the 1920 Census was taken, the apportionment in 1929 being that fixed by the act of August 8, 1911 (37 Stat. L., 13).

conditions would materially interfere with the proper conduct of the work. The discretionary power lodged in the Director applies only to the date of beginning the field work; it does not affect the date to which the enumeration applies.

The Fourteenth Census was taken as of January 1, and the bad weather in many sections materially interfered with the work. The November date was advocated in order to take the agricultural census before tenants had moved from the farms and before the roads became impassable. The opponents of the November date claimed that the harvesting of many crops was not complete by November, and that the roads were already in bad shape by that time.

The conflict between the urban and rural interests also had its effect. The opponents of the November date held that by November many of the farm workers have gone to the cities for employment; that an enumeration on that date would increase the urban population, and that as the representation in Congress is based on distribution of population, the rural areas and in many cases the states whose citizens were mostly engaged in agriculture would lose representatives.

The compromise date finally agreed upon was April 1, 1930, there being retained the provision that the Director of the Census could change the date of beginning the enumeration.

The House bill provided for a census of population, agriculture, drainage, distribution, and mines. The Senate bill added unemployment and radio sets. There was no opposition in the House to the census of unemployment, and this feature was retained, but the provision for the enumeration of radio sets was eliminated.

The House bill provided that all the field employees—special agents, supervisors, supervisors' clerks, enumerators, and interpreters—should be appointed without examination by the Civil Service Commission, but after such examination as the Director of the Census might deem proper. In the Senate bill it was provided that all appointments of these employees should be "subject to the civil service laws." As agreed to by the conferees only the special agents are to be "appointed in accordance with the civil service laws."

At the decennial census the Bureau has for some years obtained the services of government employees who by reason of local con-

ditions were especially qualified to serve as enumerators or interpreters. Under general law (39 Stat. L., 120, 582), the aggregate compensation paid to government employees holding more than one position may not exceed \$2000. The Senate bill restricted the payment to government employees by providing that government employees engaged in census work should "not be paid in the aggregate greater compensation than they would receive for service in the positions held by them." The effect of this language would be that no government employee would receive any net additional compensation for census work even if the work were done in his own time. The Director of the Census commented on this as follows:⁸⁰

Section 3 has been further changed so as to make it impossible for the Census Bureau to secure the services of Indian agents, foresters, employees of the Bureau of Fisheries, Army officers or men at camps, superintendents of public parks, rural mail carriers or other Federal employees who are familiar with local conditions. These employees who have permanent positions will not do this extra work, or temporarily give up their regular work, unless they receive some extra compensation. Some of them will work without extra pay. In fact, the Bureau of Fisheries employees are now arranging to take the census of the Pribilof Islands without any extra pay. But such an arrangement cannot be made with the Indian agents and others.

The Census is an emergency work, and if the bureau can utilize with advantage Federal employees who may be stationed in outlying points, the bureau should have the privilege of doing so, but they cannot secure the services of such people unless they are paid something extra for the work. None of these people will be employed more than two weeks or a month, depending upon the districts they will enumerate. In this connection, attention is called to the remarks of Senator King on page 2173 of the Congressional Record of May 29, 1929.

The House struck out the Senate provision and added a clause permitting the payment of compensation for census work even if the census compensation and the regular compensation amounted to more than \$2000. The conferees struck out both the House and Senate provisions, on the ground that the House provision was

⁸⁰ Congressional Record, 71st Congress, 1st session, Daily Edition, June 3, 1929, p. 2299.

surplusage by reason of the fact that other language in the Census Act permitted additional compensation.⁵¹

Comparison of Acts for Fourteenth and Fifteenth Censuses. The act for the Fifteenth Census, like the one for the preceding census, is a continuing act; it will be in force in 1940 if another act is not passed for that enumeration. The act for the Fourteenth Census is specifically repealed, but the provisions for the biennial census of manufactures, the quinquennial census of agriculture, and special intercensal statistics are reënacted in substantially the same form. In general the act for the Fifteenth Census is less specific than the one for the Fourteenth and allows greater discretion to the Director of the Census in regard to details. This is reflected in the length of the act; the Fifteenth Census act exclusive of the section relating to apportionment being only slightly more than half as long as the act for the Fourteenth Census.

The subjects specified in the Fourteenth Census Act and omitted from the Fifteenth are forestry and forest products and quarries. The inquiry regarding manufactures is omitted from the general sentence covering the purposes of the Fifteenth Census, but the subject is covered by a later section authorizing the collection of statistics of manufactures for every second year after 1927. The subjects to be covered in 1930 and not heretofore included are distribution and unemployment. The Distribution Census will be confined to the volume of wholesale and retail trade, and will be along the line of the special censuses of distribution.

The Fourteenth Census act specified the inquiries that should be included in each schedule. The Fifteenth Census act is silent on this subject, and therefore the inquiries are left to the discretion of the Director of the Census, subject to the approval of the Secretary of Commerce.

Provision for apportionment is included in the act for the Fifteenth Census. Previously apportionment had been included in only one census act, that of 1850 (9 Stat. L., 432), which fixed the number of representatives and authorized the Secretary of the Interior to make the apportionment. This apportionment remained

⁵¹ This interpretation was subsequently confirmed in a decision by the Comptroller General.

in effect after the census of 1860 was taken, except that eight additional members—one to each of eight specified states—were added by the act of March 4, 1862 (12 Stat. L., 353).

The Fifteenth Census is to be taken as of April 1, the Fourteenth Census date being January 1. The provision for deferring the beginning of the enumeration if climatic or other conditions interfere with the work is the same in both acts.

The Fifteenth Census act provides that the tabulation of the total population by states shall be completed within eight months; no such provision was in the Fourteenth Census Act. This new provision arises from the definite provision for reapportionment carried in the act for the Fifteenth Census.

At the Fourteenth Census the three-year decennial period began July 1, 1919; for the Fifteenth Census this period begins on January 1, 1930. This change results from the shifting of the date for beginning the enumeration.

Material changes are made in the provisions relating to personnel. The Fourteenth Census Act provided only one Assistant Director—an “experienced practical statistician”; the act for the Fifteenth Census provides two Assistant Directors—one to act as executive assistant and to perform in addition the duties of the chief clerk, the other to be “a person of known and tried experience in statistical work” and to act “as technical and statistical advisor.” The one Assistant Director of the Fourteenth Census was appointed by the President, by and with the advice and consent of the Senate. The two Assistant Directors for the Fifteenth Census are “to be appointed by the Secretary of Commerce, upon the recommendation of the Director of the Census, in conformity with the civil service laws and rules.”

At the Fourteenth Census all field employees were appointed without regard to civil service rules. The Fifteenth Census act provides that special agents shall be appointed in accordance with the civil service laws, but supervisors, supervisors’ clerks, enumerators, and interpreters are specifically exempted from civil service examination.

The Fourteenth Census Act provided definite limits for the compensation for supervisors, enumerators, and interpreters. The Fifteenth Census Act allows the Director of the Census to fix the

compensation. In the case of special agents the Fourteenth Census Act provided a limit of \$6 a day, except that twenty-five agents might receive \$10 a day. The Fifteenth Census Act fixes the maximum compensation of special agents at \$8 a day, except that twenty-five may receive \$12 a day. Both acts permit compensation on a piece-price basis without limitation on the amount earned per day. The restrictions on the amount that could be paid to enumerators seriously hampered the work of the Fourteenth Census, and the greater discretion allowed the Director is the result of the difficulties encountered at that time.

The number of supervisors at the Fourteenth Census was limited to four hundred; no limit is fixed for the number to be employed at the Fifteenth Census. The Fourteenth Census Act also provided that "so far as practicable and desirable the boundaries of supervisors' districts shall conform to the boundaries of Congressional districts." This provision is omitted from the Fifteenth Census Act.

Changes in Methods and Procedure. The general plan of operations of the Fifteenth Census will probably be along the same lines as the Fourteenth. The provision for the census of distribution will probably require additional special agents in the field.

As regards the population census it is planned to have an increase of approximately 50 per cent in the number of supervisors, in order that each supervisor may have fewer enumerators to direct and a smaller population to report.

The population schedule to be used by the enumerators for the Fifteenth Census will probably not be materially different from the one used for the Fourteenth Census, but it is likely that there will be some modifications. The following changes are contemplated:

A new question "Does this family live on a farm?" may be included.

At the Fourteenth Census a separate inquiry was made regarding ability to read and ability to write. These will probably be combined into a single inquiry regarding ability to read and write.

The inquiry regarding mother tongue of person enumerated, of father, and of mother will probably be omitted.

The inquiry regarding year of naturalization will probably be omitted.

There will probably be added two additional inquiries regarding military or naval service; one as to whether the person enumerated is a veteran, and the second regarding the war or expedition in which service was rendered.

The unemployment census required by the act will necessitate at least one additional inquiry on the population schedule. There may be a special schedule on unemployment or additional questions may be added to the population schedule.

The census of distribution required by the new act does not affect the population schedule and the work of the population enumerator. This information will be collected on special schedules in the same manner as the census of manufactures, irrigation, drainage, and mines.

A departure from previous practice will probably be made in the method of announcing the preliminary figures for cities and other minor civil divisions. Heretofore these figures have been compiled from the enumerators' returns and announced by the Washington Office. At the Fifteenth Census it is planned to have the preliminary count made by the supervisors, who will make the figures public. The purpose of this change is to hold the supervisor "responsible for the criticisms, if any, concerning the work of his enumerators,"⁵² and to have complaints "come at a time when the organization is still there."⁵³

Directing Personnel. A review of the responsible heads of the census seems desirable here, even though this involves some repetition. The roster is an imposing one. There was no central directing office at the First Census, 1790. It is to be presumed that the Secretary of State, Thomas Jefferson, sent out the copies of the law to the marshals. The marshals, under the law, transmitted their returns directly to the President, John Adams, who may be said to be the first responsible head of the census. The Secretary of State was in charge of the census for the five succeeding decennial enumerations: John Marshall of Virginia in 1800; Robert Smith of

⁵² House Hearings on Departments of Commerce appropriation bill, 1930, p. 130.

⁵³ Fifteenth and subsequent decennial censuses. Hearings before the Committee on the Census, House of Representatives, Seventieth Congress, 1st session, p. 37.

Maryland in 1810; John Quincy Adams in 1820; Martin Van Buren in 1830; and John Forsyth of Georgia in 1840.

The first Superintendent of the Census under the Department of the Interior was Joseph Camp Griffith Kennedy of Pennsylvania, graduate of Allegheny College, lawyer, and editor, who had served as secretary of the Census Board of 1849 and helped draft the legislation governing the Seventh Census, 1850. Kennedy served from 1850 to 1853, from 1858 to 1859, and again from 1860 to 1865. James Dunwoody Brownson De Bow of South Carolina, the second Superintendent, served from 1853 to 1855. His name is best known as editor of the *Southern Quarterly Review*, and of De Bow's *Commercial Review of the South and West*. He was also a professor at the University of Louisiana, Chief of the Bureau of Statistics of Louisiana, and author and compiler of various compendiums of economic data.

Francis Amasa Walker of Massachusetts was Superintendent from 1870 to 1871 and again from 1879 to 1881. A graduate of Amherst College, brevet brigadier general in the Civil War, teacher, and journalist, he was brought to the Treasury Department in 1869 by Secretary George S. Boutwell, under whom he served as Deputy Special Commissioner of the Revenue and Chief of the Bureau of Statistics. In 1873 he became a professor at the Sheffield Scientific School of Yale University, and, in 1881, President of the Massachusetts Institute of Technology.

From 1881 to 1885 the office of Superintendent was held by Charles William Seaton of New York, a graduate of Middlebury College, teacher, and captain in the Civil War, who had seen service in the Sanitary Commission and the Pension Office, in the New York state census of 1875, and in the Census Office in 1870 and 1880.

Robert Percival Porter of Illinois, Superintendent from 1889 to 1893, was a native of England, a teacher, and a prolific journalist. He served on the Tenth Census, 1880, and on the Tariff Commission of 1882. He was one of the founders of the New York Press.

From 1893 to 1897, Carroll Davidson Wright, Commissioner of Labor, was *ex officio* head of the census organization, first as Superintendent of the Eleventh Census, 1890, and after 1895 as Chief of the Census Division of the Department of the

Interior. Wright was a native of New Hampshire, an attorney, and a colonel in the Civil War. He was Chief of the Bureau of Labor Statistics of Massachusetts from 1873 to 1884, supervisor for Massachusetts and special agent in the Tenth Census, 1880, and head of the Massachusetts state census of 1885. His service as United States Commissioner of Labor began in 1885, and he ended his career as President of Clark College at Worcester.

The first Director of the Census was William Rush Merriam, a graduate of Racine College, twice Governor of Minnesota, and a banker. He served from 1899 to 1903. He was followed, 1903 to 1909, by Simon Newton Dexter North, of New York, an editor who had been connected with the Tenth Census, 1880, and Chief Statistician for Manufactures in the Twelfth Census, 1900. North later became editor of the American Year Book and statistician of the Carnegie Endowment for International Peace. The roster of succeeding Directors, all living except one, follows:

Dr. E. Dana Durand, 1909-13

William Julius Harris, of Georgia, 1913-15

Samuel Lyle Rogers, of North Carolina, 1915-21 (deceased)

William Mott Steuart, 1921-

CHAPTER II

ACTIVITIES

The Bureau of the Census is a strictly unifunctional service, having for its only duty the collection, compilation, and publication of statistics. Many of the other government services that gather statistics do so as an incident or a necessary preliminary to their primary administrative duties, but in the case of the Bureau of the Census the statistics gathered are the sole end in themselves, and the Bureau is burdened with no administrative work except that necessary for the operation of its own organization. As has been indicated in the preceding chapter the statistical reports of the Bureau cover a variety of subjects and are made at widely varying intervals. In this chapter an attempt will be made to describe each of the collections made by the Bureau, with some indication of the scope of each, of the manner in which the work is done, and of the form in which the results are made public.

The Decennial Census. Historically and in every other way the census taken by the Bureau every ten years is the most important and comprehensive statistical survey made of the population of the United States and its social and economic conditions. Beginning in 1790 with a count of the population by politico-geographic units, a division of it into slave, free colored, and white, and a meager classification of the white population into age groups and families, the scope of the census expanded every decade until by 1880 it had reached encyclopædic proportions. Since the establishment in 1902 of the Bureau of the Census as a permanent organization there has been a noticeable tendency to reduce the quantity of information which was being collected at one time and was proving too great to permit the best results, by shifting some of the subjects to the intercensal years. Even so, the decennial census still covers population, agriculture, irrigation, drainage, manufactures, mines, distribution, and unemployment.

Population. Before the census can begin there must be done a vast amount of work, ranging from the formulation of major policies to the printing of millions of copies of the various forms necessary. Some of this preparatory work, although of the greatest importance, is of such a nature that it can only be noted here rather than described.

From the close of one census the mechanical laboratory of the Bureau is the scene of busy preparations for the next. The work done depends on the situation in regard to equipment, but it extends from the rebuilding and repairing of existing machines to the design and construction of new ones. For example, in the census of 1910 the electric punching machine that had been developed proved unsatisfactory, so that much of the work had to be done on the old pantograph or hand operated machines. After the rush of the Thirteenth Census was over the electric machine was rebuilt in the laboratory in an effort to overcome the defects. When this attempt was demonstrated to be unsuccessful, a pantograph machine was rebuilt with a punch control to prevent omissions and double punching. Another problem receiving attention from the mechanical laboratory between the Thirteenth and Fourteenth Censuses was the improvement of the tabulating machines. With these better results were achieved, so that in place of the ninety-six semi-automatic tabulating machines, fed by hand and with an average output of fifteen thousand cards a day each, used in 1910, the Bureau had developed and constructed in its laboratory thirty-one automatic tabulating machines, each capable of handling two hundred thousand cards a day, recording from one to sixty different statistical items, and automatically printing the results. Improvements were also made in the sorting machines. At the Thirteenth Census seventeen, each averaging seventy-five thousand cards daily, had been used. By 1920, twenty-three had been rebuilt or constructed in the laboratory of the Bureau, each with an average of one hundred thousand cards per day.

Another form of preparatory work beginning immediately after the close of each census, is the task of keeping abreast of the changes made in the boundaries of all the cities, counties, and other political units for which the Bureau reports population. The information concerning changes is obtained through correspondence

with state officers in the case of counties and with city officers in the case of cities.

Involving as it does all questions of fundamental policy, no part of the preparatory work is of greater moment than that devoted to the drafting of legislation providing for the census. During the intercensal period preceding the census of 1920 a committee composed of the chief statisticians of the Bureau went over the law under which the previous census had been taken, word by word, and, in the light of the experience with it and of the counsel of the general advisory committee composed of eminent statisticians, revised it into a new bill. The new model bill was then submitted to the proper committees of Congress and various experts of the Bureau testified as to the need and reason for each provision of the bill. The act was passed in 1919, with only minor alterations from the form in which it was written by the Bureau.

Once the basic legislation is enacted, the Bureau can proceed with its immediate and active preparations. Prominent among these is the preparation of the schedules and other forms. While the general scope of the census is fixed by the law, the form and phraseology of the questions to appear on the schedule are properly left to the discretion of the Director of the Census. He with the other census experts has to devote much time and give careful consideration to all aspects of this problem, for the burden placed upon the enumerators materially affects the accuracy of the census. Instructions for the enumerators, which in 1920 amounted to a pamphlet of over fifty pages, also have to be prepared with great care. Then there are other forms like applications, tests outfits, commissions, and oaths, which do not present difficulties in composition but have to be printed in such quantities and be distributed so widely in a short space of time that the work assumes large proportions. The number of population schedules printed for the census of 1920 was two million, five hundred thousand, and over one hundred and fifty thousand copies of the instructions had to be printed. All the printing was done at the Government Printing Office, but the Bureau had to see that various forms were ready and distributed where and when needed. Special boxes to contain the population and agricultural schedules, instructions, and other supplies were manufactured, and some seven thousand were needed

to ship these forms to the supervisors. In addition, more than fifty thousand packages of miscellaneous blanks and supplies were sent them through the mails. It took an average force of one hundred and thirty persons from August to December to receive, prepare, and ship the schedules and supplies to the supervisors.

The passage of the law also permits the Bureau to proceed immediately with the division of the census area into districts. At the Fourteenth Census, Continental United States was divided into 372 supervisors districts and 87,234 enumeration districts. Outside of the large cities the supervisors' districts followed the boundaries of the congressional districts. The large cities were each placed under the charge of a single supervisor, except New York City, which was divided into four districts. Supervisors were appointed for Hawaii and Porto Rico. In Guam, Samoa, and the Panama Canal Zone, the governors were in immediate charge of the respective censuses ; and in Alaska employees of the Bureau of Education were employed as special agents to take the census.

The organization of the field force is the most vital problem the Bureau has to face. On March 17, 1919, just two weeks after the census law was passed, the Bureau issued a press notice stating the approximate number of supervisors to be appointed, the method of their appointment, and the procedure for applicants to follow. About fifty-five hundred persons replied and were supplied with application blanks similar to the forms used by the Civil Service Commission for "non-assembled" examinations. Slightly over two thousand of these applications were filled out and returned to the Bureau, where they were graded according to a scheme of rating, and a selected list of candidates was recommended to the Secretary of Commerce for appointment. The first appointments were made in August, and by the end of that month 350 of the 372 supervisors were named. Including several appointed to vacancies caused by death or resignation, five women were named supervisors for the first time in the history of census taking in the United States. As soon as the supervisors could establish district headquarters and be supplied with one or more assistants, including inspectors to guide and assist enumerators in the large cities where the presence of great numbers of foreign-born persons caused peculiar difficulties, they had to begin to raise and train the army of enumerators who would work under their supervision.

To select approximately ninety thousand enumerators and to instruct them in their duties within the space of two months, which was all the time available in 1919, is a baffling problem at best, but in this instance it was made much more complicated because the rates of compensation were not such as to induce applicants for the positions under the existing economic conditions: A practical test, consisting principally of filling out sample schedules, was given to aid in the selection of competent enumerators. Usually the applicants were assembled and given the test by the supervisor or an assistant, or in some cases by postmasters, but because of the impracticability of assembling the applicants in certain districts the tests were given by mail or individually. Originally the week of October 27 was set as the date of the test for all districts, but the scarcity of applicants forced a postponement of one or more weeks in almost half of the districts. The lists of the applicants selected by the supervisors, for the tests were not strictly competitive, together with their test papers and applications, were then sent to the Bureau, where they were examined. The Bureau then notified the supervisors by wire or mail of the persons who were approved, the only cases where approval was denied being those of persons who were tax assessors or collectors and thus obviously objectionable for census purposes, or who were postal employees and therefore ineligible according to a ruling of the Post Office Department. In some cases persons who did not make an acceptable grade in the test were appointed for lack of other applicants; in an appreciable number of rural districts it was found impossible to induce anyone to undertake the work so that two or even more districts had to be assigned to one enumerator.

One of the problems of the Bureau at the Fourteenth Census was fixing the rates of compensation of enumerators within the limits allowed by the law. In the census of 1920 this was simplified, because even the maximum permitted proved inadequate to persuade many to seek the position. Instead of having varying rates in different districts, as in 1910, practically all the enumerators received the maximum rates. In the districts where the rates of pay were based on the number of persons enumerated the maximum of four cents per person was allowed in 71,487 enumeration districts, while the only other rate used, that of three cents per person, was used in only 975 districts. In all of the 2207 districts

where mixed rates of so much per diem and so much per person enumerated were used, the maximum rate of two dollars per day and three cents per person prevailed. Of the districts where straight per diem rates were used, thirty-two paid four dollars per day, three paid four and one-half dollars, 659 paid five dollars, 697 paid five and one-half dollars, and 11,174 paid the maximum of six dollars per day which the law permitted. The act for the Fifteenth Census gives the Director discretionary power regarding the compensation of enumerators and supervisors.

A series of eleven conferences held either by the Director, the Assistant Director, or the chief statistician for population enabled those officers to reach personally and advise more than nine-tenths of the supervisors. Whatever training of the enumerators in their duties that it was possible to give was necessarily left to the supervisors, except as it was accomplished through the printed instructions prepared by the Bureau.

According to the law the canvass of the enumerators was to be completed within two weeks in urban districts and within thirty days in rural districts but actually, as was noted in the preceding chapter, the work of enumeration took much longer in many districts. As the enumerators finished they turned their schedules over to their supervisors, who examined and corrected them before forwarding them to the Bureau of the Census in Washington, which, meanwhile, had been expanding its force to take care of the schedules when they arrived, training the new temporary employees in their work.

The first process to which the returned schedules were submitted was a preliminary examination to determine the completeness of the enumeration, and to compare the entry of the civil divisions in the headings of the schedules with the description given in the plan of division, so as to make sure that no area was omitted or canvassed by two enumerators. A special scrutiny by a force of from seven to ten clerks was made to look for evidence of padding or other irregularities, especially in returns from cities where attempts to inflate the population might be anticipated.

The next process was the hand count of the population made directly from the schedules, later counts being made from the punched cards. The results of the hand count of the returns from each district were compared with those of a similar count made

in the office of the supervisor and forwarded by him with the schedules. Any differences were eliminated by a recount of the schedules. The preliminary announcements of population were based on the hand count and were made through mimeographed press releases as soon as available for every city, county, village, or township. The first preliminary announcement made on February 21, 1920, gave the population of Washington, D. C., and Cincinnati, Ohio, and the preliminary announcement of the total population of the United States was made on October 7.

After the hand count the items on the schedules were edited by clerks who had demonstrated ability in the preliminary examination. The inquiry requiring the most editorial attention was that relating to the place of birth of the foreign born, which was greatly complicated by the numerous recent changes in the political map of Europe. It was decided as a matter of census policy that the country in which the person's birthplace was located on January 1, 1920, should be used and not the country as designated when the person was born. Anticipating that many persons, either from habit or preference, would report country of birth according to prewar boundaries, the Bureau instructed the enumerators to secure the name of the city or province as well as the country, and a large part of the editorial work consisted of verifying and correcting the answers to this inquiry. An indication of how large a task this was can be had from the fact that it took an average of over three hundred clerks approximately five months to do the bulk of it.

The coding, which was done at the same time as the critical examination, consists of indicating on the schedule the number to be punched by the punch card operator. There is a separate division, or "field," on each card for each question on the schedule, and the facts in each field are represented by a series of numbers.

The examination and coding were followed by the punching of the tabulation cards. Next to the field work this is the largest single operation in the population census. The card provides for all the possible answers to the questions on the population schedule, except those relating to occupation, for which a separate card was used. For each person enumerated in the United States, Alaska, Hawaii, Porto Rico, and the Panama Canal Zone, a separate card was used, and by punching holes in it at the appropriate places the data written on the schedule by the enumerator was transferred

to the card. The work of punching began in March and was almost completed by the following October, although it was not until December that the last of the 107,344,235 cards was punched. During these ten months an average force of 534 operatives was engaged in this work, the maximum number being in August, when an average of 1252 was reached. In order to keep the punching machines in operation and thus expedite the work, two night forces, included in the above totals, were organized for part of the time.

By using a separate punch card for the occupational data and not including it on the regular population card, it was hoped in addition to other advantages that work on this branch of the census would be carried on simultaneously with that on the rest of the population data, and this expectation was realized. The coding of the occupations was particularly difficult and required a force of over one hundred clerks for ten months, classifying by means of a printed index about twenty thousand occupational designations into 572 groups. The occupation punch card carried, in addition to the occupational data, all the facts as to sex, age, etc., reported on the population card except mother tongue and birthplace of parents. The punching of occupation cards began in September, 1920, and was finished in May, 1921, when 42,169,769 cards, one for each person of 10 years of age or over reported as having a gainful occupation, had been punched.

After the cards were punched the next step was their verification by running them through two sets of machines. These electrical machines were wired so as to reject automatically any card which lacked the required number of punched holes, a card not punched with the mechanical exactness required for the tabulating machines, or which had holes punched indicating apparently inconsistent data, such as "married" or "widowed" and "under 15 years of age." The cards that were rejected were then compared with the schedules filled out by the enumerators and either verified or replaced with correct cards. The machine verification of the regular population cards was finished in December, 1920, the same month the punching was completed. A similar procedure was used to verify the occupation card.

The cards were then ready for sorting and tabulating. They were first sorted by groups according to sex and color or race, and for the white population according to nativity and further

according to nativity of parents. Following a rearrangement of the cards by hand, there came next the first machine count or tabulation, which gave totals for sex, color or race, nativity, and parentage, for school attendance and illiteracy by age groups, for dwellings and families, and for tenure of homes. These figures were ascertained for every city or other incorporated place of over twenty-five hundred inhabitants, for every ward in all cities of over fifty thousand inhabitants, and for the remainder, or rural area, of each county. This count began in September, 1920, and was completed in February, 1921, using from seventeen to twenty-one machines. The second machine count, completed in the same month, was restricted to the foreign born white population, and showed its distribution by sex and country of birth. After this count the cards were rearranged and no further population details obtained for counties and small cities and villages, but in the succeeding counts the readings were only for large cities individually, for small cities in two groups, and for the rest of the state or rural area.

The second machine sort grouped the cards by quinquennial ages and to some extent by single years of age. When it was finished the third machine count took place and gave for each class of the population the distribution by single years of age, school attendance by single years of age from 5 to 20, marital condition by quinquennial ages and single years from 15 to 34, and illiteracy, and ability to speak English by quinquennial age groups, all being shown by states and by cities of over twenty-five thousand inhabitants and urban and rural areas. The fourth machine count, immediately following, covered the native population only, and showed state or territory of birth by color or race and by parentage for the whites. Next came the third machine sort, which was restricted to the foreign born white population, arranging it according to citizenship so that there were grouped together the aliens, naturalized citizens, those with "first papers," and those whose citizenship was not reported. The fifth machine count then gave the citizenship, country of birth, and year of immigration to the United States for the foreign born population. Then followed the fourth and last machine sort, which gave the foreign born white population and the native white of foreign or mixed parentage by mother tongue. The same group was then counted by country of birth in the sixth machine count, the last to be made of the regular population cards.

The tabulation of the occupation cards required only one sort and three counts. The sort was by occupational groups and necessitated the passage of the cards three times through the machines. The first count was limited to cities of from twenty-five thousand to one hundred thousand population, while the second and third counts covered each state and each city of over one hundred thousand, the third count being restricted to occupied women 15 years of age and over.

Meanwhile, the results were being made public as they were ascertained. Publication was accomplished in three ways: mimeographed press releases, printed bulletins, and the final bound reports. As has already been stated as soon as the hand count of the schedules revealed the size of the population of any unit, the result was made the subject of a press release and published in the newspapers. Other important and fundamental figures were also given to the papers, the total number of press releases relating to population being 7517, of which 5884 gave the number of inhabitants in states, counties, cities, and other units. Immediately following the hand count a series of state bulletins was prepared showing the population of the state as a whole and of its counties, cities, villages, and other subdivisions. These state bulletins were printed as soon as possible, the first being issued in July, 1920, and the last in April, 1921. Later they were rearranged and with some supplementary data formed the contents of Volume I of the final reports. The bulletins containing the data on the composition and characteristics of the population depended on the first and second counts of the cards and were prepared as those were completed. Ultimately a total of 133 bulletins on the population data were issued. Most of them appeared later in the final bound reports, though a few did not. Four of the eleven volumes of the final reports were devoted to the census of population. Their contents are as follows:

Volume I. Number and Distribution of Inhabitants. Population of the United States, by geographic divisions, states, counties, cities, wards of cities, villages, towns, townships, and other civil subdivisions, without distribution as to sex, age, color or race, etc.; total population of outlying possessions by civil subdivisions; urban and rural population, by geographic divisions, states, and counties; area and density of population, for United States, geo-

graphic divisions, states, and counties; center of population and median lines; cities and their suburbs.

Volume II. General Report and Analytical Tables. This volume comprises sixteen sections (each of which had been published as a separate bulletin), as follows: Color or race, nativity, and parentage; sex distribution; age distribution; marital condition; state of birth of the native population; country of birth of the foreign-born population; year of immigration of the foreign-born population; citizenship of the foreign-born population; country of origin of the foreign white stock; mother tongue of the foreign white stock; school attendance; illiteracy; inability to speak English; dwellings and families; ownership of homes; general statistics for counties. The presentations are, in general, limited to continental United States, geographic divisions, states, and cities having 25,000 inhabitants or more; but in the sections "color or race, nativity, and parentage" and "ownership of homes" special statistics are given for selected cities, including some with less than 25,000 inhabitants. In each section in which distributions of the population by sex or by color or race, nativity, and parentage, or both, are applicable in connection with the presentation of the statistics pertaining to the subject covered by the section, such distributions are made. The last section gives, for each county, the distribution of the total population by sex and color, of the white population by nativity, and of the native white population by nativity of parents, and shows the number attending school, the number illiterate, and the number naturalized among the foreign-born white population.

Volume III. Composition and Characteristics of the Population, by States. This volume comprises a section relating to the United States as a whole, one for each state and outlying possession, and one for the District of Columbia. (Each section had been published separately in bulletin form.) In the section for the United States as a whole statistics are presented by states and large cities. In the state sections figures are given for counties, for cities and other incorporated places having 2500 inhabitants or more, and for wards of cities having 50,000 inhabitants or more, but the statistics for cities under 10,000 and for wards of all cities are presented in less detail than those for cities having 10,000 inhabitants or more. The items covered by the presentation in each section are: Sex, color or race, and age groups, for the total population; nativity for the white population; nativity of parents for the native white population; school attendance for persons of school age, by age groups; citizenship status, by sex, for foreign-born persons 21 years of age and over; illiteracy for persons 10 years of age and over and for persons 21 years of age and over, by principal population classes, and for persons 16 to 20 years of age, for all population classes combined; number of dwellings; number of

families. For the total population, the total urban population, and the total rural population of the United States and of each state, statistics on certain subjects are given in greater detail than for the counties and cities.

Volume IV. Occupations. The occupation report classifies persons gainfully occupied, 10 years of age and over, according to sex, age, color or race, nativity of whites, and nativity of parents of native whites, and shows the marital condition of women gainfully employed. The occupation classification embraces 572 separate occupations and occupation groups, arranged in nine general divisions. Statistics are shown for the United States as a whole, for the states, and for cities having 25,000 inhabitants or more, but the presentation is less detailed for cities having from 25,000 to 100,000 inhabitants than for large cities and the states.

Agriculture, Irrigation, and Drainage. The census of agriculture has formed a part of each decennial census since 1840, and has shown the normal tendency of extending its scope to include more and more information. Statistics on irrigation were first included in the census of 1890, while those on drainage of agricultural land first appeared in the census of 1920.

Much of what has been said of the preparatory measures taken for the census of population applies equally to those for the census of agriculture. In preparing the agricultural schedules the experts of the Bureau held many conferences with officers of the various bureaus of the Department of Agriculture, who were in a position to offer valuable suggestions and to whom the census was naturally of great importance. Special instructions and other forms had to be prepared. It was obviously impossible for a single punch card to carry all the items on the agricultural schedule, so a series of seventeen, each covering a part of the schedule, was prepared and printed in the large quantities necessary. The electrical tabulating machinery was naturally different from that used in the population schedules, it being necessary in the agricultural census not only to count units but also to record and add numbers like an adding machine. The development of such an integrating counter had been one of the principal problems of the mechanical laboratory in the interval since the census of 1910. The organization of a field force to gather the agricultural data was not a separate problem because, with the exception of a portion of the irrigation and drainage schedules, all the agricultural schedules were filled out by

the enumerators who were collecting the population data. In practically all districts the maximum rates of compensation permissible, or thirty cents per farm, fifty cents per irrigation enterprise, fifty cents per drainage enterprise, and ten cents per barn or enclosure containing livestock not on farms or ranges, were paid.

The general agricultural schedule was a large sheet, both sides of which were covered with inquiries to be answered for each farm. Under each of the following topics were a number of detailed questions designed to reveal the significant data: Information concerning farm operator; farm tenure, January 1, 1920; farm acreage, January 1, 1920; uses of land in 1919; farm values, January 1, 1920; farm encumbrance, January 1, 1920; farm expenses, 1919; drainage, January 1, 1920; domestic animals, poultry, and bees on this farm January 1, 1920, and animal products in 1919; farm facilities, January 1, 1920; coöperation in marketing in 1919; irrigation, January 1, 1920; crops grown on this farm in 1919; forest and forest products in 1919; nursery acreage and products, 1919; greenhouse and hothouse establishments, 1919. In addition to this general schedule there was a separate one for livestock not on farms or ranges, which showed the name of the proprietor, the location of the stable, barn or other enclosure, and the number of each of the classes in which horses, mules, asses and burros, beef cattle, dairy cattle, sheep and lambs, goats and kids, and hogs and pigs were divided. There were also separate schedules for collecting information concerning irrigation and drainage. About forty thousand irrigation schedules and one hundred drainage schedules were collected by the regular census enumerators and the balance, amounting to twenty thousand irrigation schedules and nearly thirty-two thousand drainage schedules, was gathered by special agents appointed for that purpose. The total number of farm schedules filled out was 6,485,160.

When these schedules were received at the Bureau in Washington they went through a series of operations similar to those used to compile the data on the population schedules. For the first time all the agricultural data were tabulated by the use of punch cards and electrical tabulating machines. To do this it was necessary, as already noted, to use a series of seventeen punch cards, the total number of cards being 142,649,804. These were verified,

sorted, and counted a number of times. One set, giving farm acreage and farm values, underwent six sorts and eight tabulation runs, and practically all the cards were sorted at least once by tenure and once by size. Taking as a unit the passage of one card once through one machine, the number of cards sorted was equivalent to 1,020,663,633, and the number run through the tabulating machines was equivalent to 259,974,674. This work was completed in June, 1921, there being employed a force of operatives averaging 770 from March through December, 1920, and reaching a maximum of 1211 in September.

As with the population census the results were made public through press releases, printed bulletins, and the final comprehensive reports. The more important and basic figures were announced in press summaries given to the newspapers of the country as soon as they were ascertained. In all 3340 press releases were issued on agriculture, of which 3045 covered farms and farm property, livestock and livestock products, and crops, for counties, 237 on irrigation, and 294 on drainage. The bulletins issued included seventy on agriculture, of which fifty-two gave the agricultural statistics on each of the states, the District of Columbia, Alaska, Hawaii, and Porto Rico, twenty on irrigation and thirty on drainage. Practically all of these appeared later in the final census reports. Three volumes were devoted to the census of agriculture. They are:

Volume V. General Report and Analytical Tables. This volume comprises fourteen chapters (each of which appeared as a separate bulletin), as follows: Farms and farm property; size of farms; tenure; tenure by color of farmer; race, nativity, and sex of farmer; age of farmer, number of years on farm, and farm experience; farm mortgages; farm expenses, farm facilities, and co-operation; livestock on farms and elsewhere; livestock products including young animals raised and animals sold or slaughtered on farms; summary for all crops; individual crops; forest products, nurseries and greenhouses; and farm population. Each chapter presents statistics for the United States as a whole and for each state.

Volume VI. Reports for States, with Statistics for Counties. This volume was issued in three separately bound parts, one for the northern, another for the southern, and the third for the western states and outlying possessions. Each part contains a general summary for the United States, by states, including statistics on a

number of minor subjects not covered by the state reports, together with a brief summary for each of the three sections of the country. The state sections present, by counties, statistics on the following subjects: Farm area and farm property; sex, color, and nativity of farmers; size of farms; tenure of farms; farm mortgages; farm expenditures for labor, fertilizer, and feed; livestock on farms and ranges; domestic animals not on farms or ranges; livestock products; value of all crops and acreage and production of principal crops.

Volume VII. Irrigation and Drainage. General Report and Analytical Tables, and Reports for States, with Statistics for Counties. The irrigation and drainage reports, which are bound together in this volume, also were published separately in paper binding. The reports for individual states were previously published in the form of separate bulletins.

The irrigation report covers the following subjects, statistics being given under each head by states: Area irrigated; capital invested in irrigation enterprises; cost of operation and maintenance of enterprises; drainage of irrigated land; quantity of water used; types of enterprises; water rights; pumping for irrigation; land in irrigation enterprises reported as available for settlement; principal crops grown on irrigated land. The sections for the nineteen states containing irrigation enterprises present statistics, by states, for the principal crops grown on irrigated land and, also, by counties, under the following heads: Acreage irrigated; acreage in enterprises; irrigation works; capital invested in enterprises; land in irrigation enterprises reported as available for settlement.

The drainage report presents statistics, by states, for each of the following subjects: Drainage on farms; location of drainage enterprises; size and character of enterprises; date of organization; land in drainage enterprises; cost of operation; capital invested in enterprises; drainage works. The sections for the twenty-nine states containing drainage enterprises give statistics, by counties, for the following subjects: Drainage on farms; area in drainage enterprises; drainage works; development of land; capital invested in enterprises; principal crops grown on drained land.

Manufactures, Mines, and Quarries. The census of manufactures was first made a part of the decennial census in 1810, and has been a regular feature of it ever since, except for the census of 1830. Some statistics, at first very meager, on mines and quarries were given in connection with each census of manufactures with one exception, that of 1820. Forestry and forest products were included in the decennial census of manufactures for the first time in 1920, although a discussion of them appeared in the reports of the census of 1880.

Special preparatory work naturally had to be done for this branch of the decennial census. A card index was prepared containing the name, address, and products of every known establishment that appeared to be within the scope of the census. The names were obtained from the schedules of the previous census of manufactures and from trade lists, and from membership lists of commercial and industrial associations. When this index was compiled circulars were mailed to all the names on it, to ascertain if the establishments were still in operation and properly came within the scope of the census. This procedure eliminated some two hundred and fifty-nine thousand establishments from the card index, leaving about five hundred and eighty-five thousand to be covered by the census.

The preparation of the schedules for the census of manufactures was particularly difficult, because so many special schedules had to be used to obtain detailed information on the materials consumed and the production in units of quantity for the individual industries. Consequently, it was necessary to prepare a general schedule for all manufacturing industries, a general schedule for mines and quarries, an administrative and general office schedule for cases where two or more distinct establishments were operated under a central ownership, and 129 special or supplementary schedules for individual industries. In formulating these schedules the Bureau conferred not only with various governmental agencies but also with chambers of commerce, leading manufacturers, and trade associations. The advice of the trade associations was sought both because they were in a position to know what data were needed by the industries and because it was hoped their interest would be aroused and their coöperation secured. Much depended upon the heartiness of their coöperation and on their willingness to fill out the schedules themselves and to return them by mail. The general schedule adopted carried inquiries for data on the description of the establishment, the amount of capital invested, the salaried employees, the wage earners, including pieceworkers, the total amounts paid in salaries and wages, the time in operation and hours worked, the rent and taxes for the year, the materials, supplies, and fuel used, the products, the mechanical power employed, and the quantities of fuel used.

The data were secured in three ways: by mail when the schedules were filled out by the manufacturers, by the population enumerators in some districts where there were only few and small establishments, and by special agents appointed solely for this purpose. Continental United States was divided into 607 districts, and routes of travel for the field force were outlined in each. In twenty-four of the large metropolitan districts chief special agents were appointed to direct the work of the special agents collecting the data. These chief special agents were usually experienced employees of the Bureau, who were detailed from the Washington Office. Other regular employees were detailed from the Bureau to act as special agents in the field, but most of the special agents were temporary employees engaged for this canvass alone after taking a practical test. The Bureau had difficulty in this branch of the canvass, too, in getting qualified persons to accept employment, or even to continue the work after they had accepted. The great majority of special agents were paid at the rate of one dollar for each acceptably correct schedule for an establishment listed on the Bureau's card index and \$1.50 for each establishment not listed, with the understanding that their compensation should average at least \$3.50 per working day. When traveling and away from their district headquarters the special agents were also allowed traveling expenses and a per diem of four dollars to cover subsistence.

The actual field work began early in February and was completed in December, 1920, during which time 1212 special agents were appointed and 211 clerks and special agents were detailed from the Bureau. The peak of the work was reached in June, when 1002 special agents, 191 clerks and special agents detailed from Washington, and thirteen employees of the United States Geological Survey, who by a coöperative arrangement were temporarily employed on census work, were in the field. The Forest Service of the Department of Agriculture similarly coöperated in the canvass of forestry and forest products. In all, about four hundred and seventy-two thousand schedules were originally received, this total being ultimately reduced because of duplications and of the rejection of establishments not properly in the scope of the census. Of the total, 309,740 were filled out and returned by special agents, 137,000 were returned by mail directly from the establishments, and 25,260 were filled out and returned by the population enumerators.

When the schedules were received they were sorted into the 667 classifications and subclassifications of industries and edited for inaccuracies and inconsistencies, a work requiring the services of about one hundred and fifty highly trained clerks for almost a year. Then cards were punched, the cards and electrical tabulating machines being used for the first time in a census of manufactures. Twelve sets of cards were necessary to carry all the data on the schedules and 4,214,929 cards were punched, an operation begun in October, 1920, and completed in June, 1921, by an average force of forty-four operatives. The punched cards were then sorted and counted a number of times, following a procedure similar to that which has been described in some detail for the population cards, until the desired groups of facts and totals were ascertained.

The results of the census of manufactures were made public in the same three ways that were used with the other branches of the decennial census. The basic and total figures were first given out in the form of press releases, of which there were 914, then bulletins to the number of 133 were prepared on parts of the census and printed, and lastly these bulletins were incorporated with additional material into the final bound volumes. Four of the volumes of the final reports were devoted to the census of manufactures, one containing the statistics on mines and quarries. The contents of each one are as follows:

Volume VIII. General Report and Analytical Tables. This volume consists of nine sections: General summary for continental United States, Alaska, Hawaii, and Porto Rico; persons engaged in manufacturing enterprises; prevailing hours of labor; size of establishments; character of ownership; power used in manufacturing; fuel consumed; fourteen groups of industries; and general tables. The general tables present summaries for the United States as a whole by industries, for all industries combined by geographic divisions and states, for selected industries by states, and for all industries combined by counties and for cities having 10,000 inhabitants or more; and detailed statistics for the United States by industries, for all industries combined by geographic divisions and states, and for industries by states.

Volume IX. Reports for States, with Statistics for Principal Cities. This volume comprises fifty-two sections giving detailed figures for the several states, the District of Columbia, Alaska, Hawaii, and Porto Rico. Each section has been published separately in bulletin form. The presentation in each section embraces

the following subjects: Number of establishments, persons engaged in manufactures, capital, salaries and wages, rent and taxes, cost of materials, value of products, power, and fuel. For each state as a whole and for cities having 50,000 inhabitants or more the statistics cover individual industries but for counties and for cities having from 10,000 to 50,000 inhabitants the figures relate to all industries combined.

Volume X. Reports for Selected Industries. These reports, fifty-eight in number (which have been published separately in bulletin form), covering 110 individual industries, relate to the following industries and industry groups: Agricultural implements; ammunition, firearms, and ordnance; automobiles, including bodies and parts; brass, bronze, and copper products; butter, cheese, and condensed milk; buttons; canning and preserving; carriages and wagons and materials; cars, steam and electric; cast-iron pipe; chemicals and allied industries (comprising chemicals, acids, coal-tar products, and coke; fertilizers; paints and varnishes, linseed oil, bone carbon, etc.; explosives; dyestuffs and extracts; wood distillation; essential oils); chocolate and cocoa products; clay products, lime, cement, pottery, and brick; electrical machinery, apparatus, and supplies; engines, locomotives, and aircraft; flour-mill and gristmill products; forest products (comprising lumber, lath, and shingles; tight and slack cooperage stocks; pulp-wood consumption; forest products consumed; turpentine and rosin); gas, illuminating and heating; glass; glucose and starch; ice, manufactured; iron and steel and wire; leather and its finished products; machinery and machine-shop products; motorcycles, bicycles, and parts; musical instruments; needles, pins, and hooks and eyes; oilcloth and linoleum; paper and wood pulp; patent and proprietary medicines and compounds; petroleum refining; printing and publishing; rice cleaning and polishing; rubber tires, tubes, and rubber goods; ship-building; slaughtering and meat packing; smelting and refining, all industries; soap; sugar; textiles (comprising cotton manufactures wool manufactures; knit goods; silk manufactures; miscellaneous textiles); power laundries; and dyeing and cleaning.

For each industry there are given statistics for the United States as a whole and for states and selected cities; under the following heads: Number of establishments; persons engaged; capital; salaries and wages; amounts paid for rent and taxes; quantity and cost of materials; quantity and value of products; value added by manufacture; character of ownership; size of establishments by value of products and by number of wage earners; prevailing hours of labor.

Volume XI. Mines and Quarries—General Report and Analytical Tables, and Reports for States and Selected Industries. This volume contains a summary for the United States, by states, for all

industries combined ; seven sections, each presenting statistics for an important mining industry or group of industries ; separate sections for the forty-five states in which mining industries are carried on, and for Alaska ; and detailed tables giving statistics by industries and by states. The United States summary and the seven industry sections have been printed separately ; the state sections have been printed in the form of thirteen bulletins, each giving statistics for several contiguous states ; the section for Alaska has been printed separately. The industry sections are as follows : Coal, petroleum and natural gas ; iron ore ; gold, silver, copper, lead, and zinc ; stone ; phosphate rock ; gypsum. The statistics show number of enterprises ; number of mines, quarries, or wells ; land operated ; land controlled, by tenure ; persons engaged, by occupational status ; power ; capital ; principal expenses, by class ; quantity and value of products.

The Blind and Deaf. The census of the blind and deaf, taken as part of the decennial census of 1920, could be considered as merely a subdivision of the census of population, but its individual treatment since the census of 1900 marks it off as a special census. From the census of 1830, when statistics on the blind and deaf were first gathered, through the census of 1890, the data appeared on the regular population schedule and the resulting statistics were scattered through the tables giving statistics by states and other units. Beginning with the census of 1900 and continued through that of 1920, the practice was adopted of having the population enumerators return only the names and addresses of these persons, the data being collected later on special schedules, and of printing the results as a separate or special report not in the final census reports.

In 1920 the names and addresses of all blind or deaf persons were secured by the population enumerators on supplemental schedules which were used by the Bureau as a mailing list for sending out the special schedules carrying inquiries regarding the cause of the defect, degree of education, and economic status, as well as age, sex, color or race, nativity, and other significant subjects. Schedules were also sent to many persons on lists furnished by schools and other agencies for the blind and the deaf. Second and third requests for this data were sent out by the Bureau when no answer to the first was received. Ultimately about forty-one thousand correct schedules for the blind and about forty-five thousand for the deaf

were returned to the Bureau, these figures being nearly three-fourths of the total blind and deaf population enumerated. Cards carrying the data on these schedules were then punched, sorted, and counted and the reports prepared. The contents of the reports, which were as usual anticipated by press releases containing the basic figures, are as follows :

The Blind in the United States, 1920. This volume presents statistics classifying the blind population of the United States and of each state by age, color or race, sex, nativity, marital condition, age at which blindness occurred, cause, hereditary factors or influences, ability to read or communicate, education, occupation, and economic status.

Deaf-Mutes in the United States, 1920. In this report the deaf-mutes in the United States and in each state are classified according to age, color or race, sex, nativity, marital condition, age at which deafness occurred, cause, hereditary factors or influences, ability to read or communicate, education, occupation, and economic status.

These statistics were later taken as the basis of a study of the social and economic status of these two classes, in two special reports, with some assistance from the Bureau, by Dr. Harry Best, professor of sociology at the University of Kentucky; the first of these, "The Deaf-Mute Population of the United States, 1920," has been issued, and the second, "The Blind Population of the United States, 1920," will shortly be issued.

Mortgages on Homes. Another part of the decennial census, separated from the census of population only by the special treatment accorded it, was the collection of statistics of mortgages on homes, a subject which had been included previously only in the census of 1890. The data regarding mortgages on farms were obtained on the general farm schedule and because of the impossibility of separating the mortgage debt on the farm homes from that on the farm as a whole, the statistics were included as an integral part of the agricultural census and reports. For other than farm homes the data were obtained by special schedules sent by mail to the owners who, the population returns showed, occupied their own house, which was mortgaged. The number of inquiries sent out reached 4,569,298, and second and even third letters followed. Returns were received from approximately two-thirds of

the total number of owned mortgaged homes not on farms. These were tabulated and the results written in a report which was not included in the final census volumes. Its contents are:

Mortgages on Homes in the United States, 1920. This volume shows, for states and for cities having twenty-five thousand inhabitants or more, the number of homes not on farms, by tenure, the value of mortgaged nonfarm homes occupied by their owners, the mortgage indebtedness thereon, and the amount and rate of interest.

General Reports and Interpretive Studies. The work of the Bureau in connection with the decennial census is not completed by the publication of the final census reports. An abstract of the Fourteenth Census, covering all branches of it, was prepared and published without much extra work by combining sections of the various reports. A statistical atlas containing maps, charts, and diagrams, to illustrate the statistics of all phases of the census, was also prepared and printed. This was necessarily done after the close of the three-year decennial census period, in which the law required the basic census reports to be completed.

Another type of work on the Fourteenth Census after the end of the decennial census period was the preparation of a series of interpretive studies or monographs on some of the most significant revelations of the census as to the trend of social and economic forces. Unlike the abstract and the statistical abstract, which had been regular features of preceding censuses, these interpretive monographs constituted an almost entirely new development in census work, the only similar instances of which that might be called precedents being the elaborate special reports included in the census of 1880. Instead of following the usual practice in census reports of merely presenting the statistics with just enough comment in the text to prevent the figures from being misunderstood and of leaving the interpretation of the significance of the statistics to others, the Bureau undertook the latter task itself. Most of the experts secured by the Bureau to prepare these studies were not regular employees, but were appointed temporary special agents for that purpose. Monographs with the following titles have been published: Increase of Population in the United States, 1910-1920; Mortgages on Homes in the United States, 1920; Farm Tenancy

in the United States, 1920; Integration of Industrial Operation; Farm Population of the United States, 1920; Immigrants and Their Children, 1920; School Attendance in the United States, 1920. Monographs on the following subjects have been announced as in various stages of preparation: Women in Gainful Occupations; Labor Income of Wage Earners in Manufacturing Industries; and Ratio of Women to Children.

The detailed tables on occupations dealing with children in the decennial report and a general analysis of the figures comprised a separate volume entitled "Children in Gainful Occupations at the Fourteenth Census of the United States," published in 1924.

Wealth, Public Debt, and Taxation. From 1850 to 1900 statistics of wealth, as indicated by the value of real and personal property, public debt, and taxation, were collected as part of each decennial census. With the establishment of the Bureau of the Census as a permanent organization this collection of statistics was transferred to the intercensal period and has since been made independently of the decennial census. The first of the independent collections covered the years 1900 to 1904 for national wealth and the calendar or fiscal years 1902 for the rest, the second covered the calendar year 1912 or the fiscal years ending prior to June 30, 1913, while the latest to be made covered the calendar year 1922. Obeying the normal tendency observable in all census work, the latest report gives more information and in greater detail than the earlier ones.

In making this inquiry for 1922 it was necessary to get data on approximately sixty thousand political divisions, including the national government, states, counties, cities of all sizes, townships, school districts, drainage districts, and all other units having the power to levy taxes or incur debt. The data were collected during the first half of 1923 by correspondence through the medium of questionnaires or by a field force which compiled most of the statistics at the various state capitals. The field force was composed of about sixty-five members of the Bureau's permanent office staff assigned to the field work and several temporary special agents. Tabulating this raw statistical material presented no unusual administrative problems, but part of the report in which the true value of the real and personal tangible property was estimated

involved nice questions in statistical method and economic theory. On this last point the Bureau sought the advice of the census advisory committee and in addition secured the temporary services of a consulting expert with experience in that particular field.

The results of the census were published in five reports, which had been anticipated by press summaries and printed bulletins containing the more important findings. The final reports were as follows: Public Debt ; Assessed Valuation and Tax Levies ; Taxes Collected ; Digest of State Laws Relating to Taxation and Revenue ; Estimated National Wealth.

Religious Bodies. The decennial census of religious bodies is another collection of statistics that, after having been a regular part of the decennial censuses since 1850, was shifted to the intercensal period, when the Bureau of the Census was made a permanent organization. The later canvasses have covered the calendar years 1906, 1916, and 1926.

The chief preliminary work for this census consists of preparing a schedule, after conferring with representatives of different religious bodies, and of perfecting a card index to the approximately two hundred and forty thousand individual churches. The names and location of all churches and the addresses of pastors or clerks are secured, wherever possible, from the headquarters of the various denominations and from the card index of the preceding census. Schedules are then sent to each individual church or unit of organization. Practically all the data are collected by mail, either directly from the individual churches, or by representatives of the denomination appointed as special agents, or from the central organization of the denomination in cases where the individual church officers do not return a schedule. The compilation of the data secured involves no peculiar or unusual problems, except that the returns have of necessity to be correlated with the number of organizations actually making report on the various subjects, particularly the financial data.

The publication of the results of the census of 1916 was delayed by the extra burdens thrown on the Bureau by the war. A preliminary announcement of some of the most important results was given to the press in 1918, and in the next year the final report was published in two volumes. The first volume contained fourteen

general tables, ten of which gave statistics by denominations for the United States, states, counties, and cities of over twenty-five thousand population, while the remaining four presented the statistics for those denominations composed wholly or in part of negro organizations. The statistics showed the number of churches, or local organizations, the number of members by sex and age, the number and total value of church edifices and of parsonages, the debt on church property, church expenditures, and the number of Sunday schools, teachers, and students. In the case of the more important denominations the membership only was shown by counties, while other data as well were shown separately for states and cities. This volume also contained a textual discussion on such matters as church organizations, church members, and value of property, by denominations; statistics of ministers in their relation to church work and their compensation; data as to languages used in church services; and a summary of the work or general missionary, educational, and philanthropic activities of the denominations. The second volume of the final report contained the statistics assembled by denominations, showing under each the principal figures by states and by ecclesiastical divisions, like diocese or presbytery, when such existed. It also contained brief statements of the history, doctrine, polity, and work of each denomination.

The publication of the results for 1926 is now in process, preliminary press announcements having been made for each denomination listed, and separate bulletins containing detailed statistics by states and by ecclesiastical divisions, together with the revised statement of history, doctrine, organization, and work, having been issued for about one-third of the denominations. These separate reports are prepared in octavo size, in form for consolidation as Part II of the final report. The first volume will contain the general tables showing the tabulation by denominations in the various areas, as in 1916, together with a new classification showing urban churches as distinguished from rural. Urban churches are those located in cities or other incorporated places which had twenty-five hundred or more inhabitants on January 1, 1920, the date of the last Federal census; while rural churches, in accordance with the census definition, are those located in territory outside such incorporated places. Certain inquiries on the church schedule for

1916, including date of organization, language used in church services, and number of halls or rented buildings, and also the special forms for ministers, covering the items of age, date of ordination, compensation, etc., were omitted in the 1926 census.

Transportation by Water. Statistics relating to water transportation had been regularly collected as part of every decennial census from that of 1850 to 1900, and they were listed in the permanent census act among those which the Bureau was authorized to gather decennially. Following the tendency to distribute the census work more evenly throughout each decade this collection was next made for the year 1906. A similar report was made for the year 1916 and that for 1926 is now in progress.

An important change in the method of securing these statistics, greatly reducing the amount of work on the part of the Bureau, was announced in the annual report of the Director for the fiscal year 1926. It had been the practice in the previous censuses for the Bureau to collect its own reports for each vessel, but it was now proposed to use the data collected by other services of the government. For years the Chief of Engineers of the Army had gathered and published statistics relating to water transportation on the waterways that were being improved by the government, and since 1916 these annual reports had been extended and amplified. Statistics on the same subject were also collected annually by the United States Shipping Board and by the Bureau of Navigation of the Department of Commerce. As these agencies published data on practically all the items required for a census of water transportation for all vessels except undocumented, unrigged barges and other craft, it was decided that the Bureau should assemble the information needed from their reports and gather only from the operators of those vessels only the data not included by the other agencies. In this way it was expected that needless expense and duplication would be avoided.

The report for 1916, the latest so far published, contained statistics on the number, gross tonnage, and value of vessels by various types; the character of ownership; the amount of construction; the income received; the number of employees and their salaries and wages; and the freight and passengers carried. The statistics were shown for the United States as a whole, for the Atlantic Coast

and Gulf of Mexico, the Pacific Coast, the Great Lakes and the St. Lawrence River, the Mississippi River and its branches, and for canals and other inland waterways. The total movements of commodities were presented for the principal ports, and separate tables were given for specific commodities forming important parts of their trade.

Institutional Population. Among the statistical collections which the permanent census act authorized the Bureau to collect decennially, but during the intercensal period, was the census of the defective, dependent, and delinquent classes or, as it has since come to be designated, the census of institutional population. A group of reports relating to the year 1904 was issued, followed by several for the year 1910. The latest census covered the year 1922 for hospitals for mental disease and institutions for the feeble-minded and epileptics, for hospitals and dispensaries, and for county and town almshouses; while for prisons and reformatories, county and city jails and workhouses, and institutions for juvenile delinquents, it covered the first six months of 1923; and for institutions for the care of children, adults, or both children and adults, the three months ended April 30, 1923.

In making this canvass forty-seven schedules were used. Their preparation, because of the inclusion of some highly technical inquiries, presented unusual difficulties and involved frequent conferences with individuals and representatives of organizations qualified to give advice in each field. Over eighteen-thousand institutions with a total population of approximately nine hundred thousand persons, exclusive of patients treated at hospitals and dispensaries, were included in the census. Most of the data were obtained by correspondence, and in about one-third of the cases contracts were made with an officer in each institution to prepare a separate card on each inmate. Some of the schedules were secured by special agents sent out by the Bureau for that purpose or by field agents chiefly occupied with some other census. Even the cotton agents in the Southern states were utilized. That part of the data giving the age, sex, nationality, disease, cause of confinement, and similar details regarding each inmate was tabulated and correlated by the punch-card system. To do this the cards punched for each inmate had to be sorted thirty-seven

times and passed through the tabulating machines fifty times. The results of the census of 1923 appeared in six reports bearing the following titles: Prisoners; Patients in Hospitals for Mental Disease; Feeble-Minded and Epileptics in Institutions; Children Under Institutional Care; Paupers in Almshouses; Hospitals and Dispensaries.

In 1926 the annual collection of at least some of these statistics was authorized by the Secretary of Commerce on the request of a number of interested organizations and individuals. The tentative plans formulated for this annual collection have been based on the theory that the institutions or the state officers charged with their supervision will furnish the information readily to the Bureau of the Census, which will then consolidate it and publish the results. At the start the statistics will be collected only from state penal institutions and state institutions for the mentally diseased, feeble-minded, and epileptic.

Electrical Industries. Quinquennial censuses of the electrical industries, authorized by the permanent census act, have been taken for the years 1902, 1907, 1912, 1917, and 1922. These have covered central electric light and power stations, electric railways, telephones, telegraphs, and municipal fire-alarm and police-patrol signaling systems. The data are collected by correspondence and by field agents of the Bureau. Because of the lack of appropriations, data concerning the operations of isolated light and power stations producing electric current primarily for the use of the enterprises such as hotels, factories or residences and not for sale, could not be included.

Four final reports resulted from the census for 1922. Before their appearance the usual practice of the Bureau was followed, and preliminary mimeographed reports containing statistics on the number of companies or systems, equipment expenses, employees, salaries and wages, customers served or passengers carried, and similar items for the United States and each state were given to the press. The titles and contents of the four final reports were as follows:

Central Electric Light and Power Stations, in which there were given statistics showing for each plant or combination of plants a balance sheet; income and expenses; primary power developed by

various agencies; the generating equipment and the number and kilowatt capacity of dynamos supplying direct current of constant voltage and amperage and of alternating current; the substation equipment of various types with the number and kilowatt capacity of each; the output of stations; the use of current, including the number of customers, the number of recording meters, the number and horsepower of stationary motors served, arc and incandescent street lamps; the number of employees; and expenditures for salaries and wages.

Electric Railways, containing statistics by states showing track-mileage classified by use, motive power, electric transmission, and general character of lines; trackage leased or operated under trackage rights; rolling stock classified by type and equipment; the number and horsepower developed by the various types of prime movers used; electric generators and subsidiary equipment; current generated and purchased; fuel used; the number of passengers carried, revenue car-miles, revenue car-hours; casualties; capital stock, dividends, and capitalization; income, operating revenues, and expenses; condensed balance sheet; the number of employees in various classes, salaries and wages; and municipal and state railways.

Telephones, showing, again by states, the systems and lines, wire mileage, the number of telephones, calls, finances, the number of employees, and the amounts spent for salaries and wages.

Telegraphs, containing figures showing the systems, mileage, finances, number of employees, amounts paid for salaries and wages, the number of offices, and the number of messages for commercial land and cable systems and not so many details for government telegraph and commercial wireless systems.

No report was made in 1922 on municipal fire-alarm and police-patrol signaling systems, which had previously been included in this census, but it is planned to include them in the canvass of 1927.

Quinquennial Census of Agriculture. The first census of agriculture other than that of the decennial censuses was taken in 1925 in obedience to a section in the law providing for the decennial census of 1920, which stated that in 1925 and every ten years thereafter there should be taken a census of agriculture and livestock, showing the acreage of farm land, the acreage of the principal crops,

and the number and value of domestic animals on the farms and ranges of the country. Involving as this does the organization and employment of a temporary field force of nearly twenty-five thousand and an addition of several thousand employees to the office force, this census constitutes the largest task the Bureau of the Census is called upon to perform in the intercensal period. The Department of Agriculture had played a prominent if not the leading part in requesting Congress to authorize and to appropriate for this census of agriculture, and coöperated extensively with the Bureau of the Census in many phases of the work, including the preparation of the schedule, the collection of the data, and the determination of what tabulations of the data should be made. The act providing for the census of 1920 was repealed by the act for the 1930 census, but the provisions for the quinquennial census of agriculture were reenacted without essential change.

In general the census followed rather closely the outline and methods of the decennial census. The country was divided into supervisors' districts and enumeration districts, there being 204 supervisors and 23,945 enumerators, the latter going from farm to farm and writing down the answers of the farmers to their inquiries on the schedule. Efforts were made to secure the services of persons identified with agriculture for taking the census. Of the supervisors thirty-eight were state agricultural statisticians of the Department of Agriculture, who were permitted by that Department to participate in the census. The county agricultural agents and the personnel of the Extension Service of the Department of Agriculture assisted by suggesting suitable persons to act as enumerators and by instructing enumerators. The state agricultural colleges were also called upon to recommend qualified persons as enumerators. In some cases regular employees of the government served in that capacity, as the forest rangers did for the farms in the vicinity of national forests, Indian agents for farms on Indian reservations, and employees of the Bureau of Reclamation for farms on irrigation projects. The schedule carried by the enumerators contained inquiries on a number of subjects not specifically required by the law authorizing the census. Thus, questions appeared on farm debt, on farm expenses, on coöperation in marketing, and on the farm population, the latter being divided into white and colored population and into persons over and under 10 years

of age. No unusual developments of moment appeared in the collection of the data by the field force, although the Director of the Census reported that a considerable number of farmers declined to answer the inquiries until they were threatened with prosecution under the penal provisions of the law.

Approximately 6,370,000 schedules were filled out in the census, and as these were received from the supervisors who sent them in, county by county, as the canvass was finished, the office force of the Bureau began the work of editing and tabulating the data on them, using the county as a unit. The first figures, giving summaries for two counties in California and one in Maine, were given to the press on March 10, 1925. In compiling the data the punch-card system was used, eight different forms of cards being necessary to carry all the data on the returns, so that a total of 96,387,410 cards had to be punched and then run through the tabulating and sorting machines. To perform a task of this magnitude it was necessary for the Bureau to employ several thousand temporary clerks. The resulting statistics were made public through the customary channels, press announcements of the important summaries, then bulletins on each state containing by counties the details of the principal facts reported, and lastly the final reports. At the request of the Department of Agriculture, which determined which tabulations would be of the greatest value, there was omitted from the reports certain information which had previously been published for the census of agriculture and in its place new data were substituted.

Biennial Census of Manufactures. In addition to the census of manufactures which forms a major part of the regular decennial census, the Bureau takes a census of manufactures every two years covering the odd-numbered calendar years. These biennial censuses began in 1921, in obedience to a provision in the act providing for the Fourteenth Census, and replaced the quinquennial censuses of manufactures which had been taken in 1905 and 1914. The act providing for the census of 1920 was repealed by the act for the 1930 census, but the provisions for the biennial census of manufactures were reenacted in substantially the same form. When the period between censuses was shortened it was deemed necessary and desirable to reduce the number of inquiries made and the number of establishments covered. Accordingly, the returns from

establishments whose manufactured products were valued at less than \$5000 annually were not tabulated for most of the inquiries. As regards establishments with products valued at less than \$5000, the 1921 census tabulated only the figures on number of wage earners and value of products; the later censuses tabulated only the value of products.

To take these biennial censuses it is necessary to maintain a correct list of manufacturing establishments, a task of large proportions in view of the number of consolidations, reorganizations, and changes in name that constantly occur in the business world. The other major portion of the preparatory work is the preparation of the schedules used. In doing this the Bureau consults with manufacturers, organizations, and individuals so that the special schedules for separate industries will provide the most valuable information and will ask only for data readily available. In so far as possible the data are obtained by mail and a steadily increasing proportion of the returns have been secured by correspondence, thus reducing the expense of the census materially and hastening its completion. However, it is still necessary to collect many of the schedules through agents in the field, for many of the manufacturers either do not respond to mailed requests or return schedules so incorrect that personal visits are necessary. In the census of 1923 a half million requests were mailed to the two hundred thousand establishments covered in the census, but only some one hundred and thirty thousand schedules were obtained, and approximately half of these had to be returned for correction. To remedy this situation the Bureau has secured the coöperation of local chambers of commerce, trade associations, and similar bodies, which not only write to their members urging them to mail their returns promptly but also furnish employees who act as special agents of the Bureau and make personal calls upon dilatory manufacturers as well as aiding in other ways in the collection of the data. In return for this aid the Bureau sends to the local coöperative agencies summaries of the results at the earliest possible moment and before the printed reports are available. The Director of the Census reported that in the biennial census of manufactures for 1925, assistance was given by 695 local chambers of commerce and 488 industrial organizations. The same census

covered 187,390 establishments engaged in the fabrication of materials, 4859 laundries using steam or other power-driven machinery, and 2406 establishments engaged in the dyeing and cleaning industry.

The tabulation of the data collected is naturally a task requiring the services of many clerks and taking much time, but it does not differ from the similar work of the Bureau on other censuses or present peculiar problems except that of classifying the products into industries, for the census is by industries rather than by commodities. The final report on each of the biennial censuses has been printed in one large volume. In addition to these final reports, there have been issued each time separate reports containing the statistics for each important industry with the statistics assembled by states and leading cities. Following the customary practice of the Bureau summaries of the most significant results are mimeographed and released for publication as soon as they are determined.

A Monograph originally intended to end with the decennial period is the one entitled "The Growth of Manufactures, 1899 to 1923," published in 1928. Owing to delays the manuscript was not prepared until the figures for two later biennial censuses were compiled. Therefore the work was revised in order to have the discussion include the figures for 1921 and 1923. A supplemental chapter gives figures for 1925, and practically all the diagrams were extended in order to include that year.

In the case of some industries included in the biennial census the Bureau collects statistics of production annually, or even more frequently, so that the work tends to merge with the collection of business and commodity statistics noted below.

Vital Statistics. Beginning in 1850 vital statistics were collected as a part of the decennial count of population until the organization of the Bureau as a permanent establishment. These early figures, collected entirely by the enumerators on their house-to-house canvass, were untrustworthy and in order to secure better data the Permanent Census Act authorized the Director of the Census to collect statistics of births and deaths annually from the registration records of those states and municipalities which in his opinion maintained satisfactory records. Since then the work developed steadily until there are now regularly issued annual, monthly, and

weekly reports as well as special reports that appear occasionally as circumstances require or permit.

Mortality Statistics. The annual compilation of mortality statistics was begun in 1900, when a death registration area was created, consisting of the six New England states, New York, New Jersey, Indiana, Michigan, and the District of Columbia. Tests made by investigators of the Bureau had revealed that the adequate registration laws of those states were being administered so as to register at least 90 per cent of the deaths in the state. Immediately the Bureau began an educational campaign, which was designed to induce other states to pass and properly enforce adequate death registration laws, and which it is still compelled to continue. The methods employed have ranged from publicity work to create a favorable public opinion, often in coöperation with other organizations, such as the Public Health Service, the American Public Health Association, the National Tuberculosis Association, or important insurance companies, to the preparation of a model bill and direct advice and assistance to state authorities as to the best procedure to be followed. Apparently largely because of the Bureau's efforts, more and more states met the standards set by the Bureau and were added to the death registration area, so that by 1928, it included forty-four states, ten cities in other states, the District of Columbia, the Virgin Islands, and the Territory of Hawaii. The states which have not yet passed adequate registration laws or which do not adequately enforce are New Mexico, Nevada, South Dakota, and Texas. However, a portion of the population in these states is included, for in accordance with the practice followed by the Bureau since the beginning of this work, it has added to the registration area the principal cities which maintain adequate municipal registration systems. The total population in the death registration area in 1928 was estimated at 114,495,000, or 95.4 per cent of the total for the United States. The Director of the Census stated in his annual report for 1926, that "the United States is probably the only first-class nation of the world that does not have a complete registration of the births and deaths."

The data are collected by the state or municipal authorities in charge of the state or municipal registration systems, who send to the Bureau a transcript of each death registered and receive for this service a small amount for each transcript. The details regis-

tered are the name, place of residence, color, age, sex, occupation, birthplace, parentage, and cause of death. To secure better data on the cause of death the Bureau has from time to time distributed thousands of copies of a Physicians' Pocket Reference to the International List of Causes of Death and of a Manual of the International List of Causes of Death, as well as participating in the task of determining a standard nomenclature and classification. In deaths from external causes further details are collected showing, in the case of suicide or homicide, the means used, and, in the case of accidents, the kind of accident.

The work of the Bureau in editing, compiling, and tabulating these statistics differs in no significant way from that in other fields. The results have appeared annually in separate reports since 1904, those for the years 1900 to 1904 having been issued in one volume. In many of the years preliminary reports were issued as bulletins and customarily the most important summary results are distributed to the newspapers of the country as soon as ascertained. The contents of these reports, as indicated by the type of information collected, showed for the total registration area and for the states and cities in it, the number of deaths by month of occurrence, sex, color, nativity, parent nativity, age, and cause, as well as many mortality rates. In figuring the annual mortality rates the population of the state or city is estimated by assuming that the increase between the last two censuses was at an equal rate and that the same rate continued. After the next decennial census reveals the exact increase for the ten-year period a report containing recomputed death rates for each of the ten years is prepared, thus superseding the estimated mortality rates issued during the intercensal period. Closely akin to this work is the preparation of life tables showing for each year of life the complete expectation of life and the average annual death rate. The results of this work are not published regularly; in 1922 the Bureau published a report on it entitled, "U. S. Life Tables: 1890, 1901, 1910, and 1901-1910."

Beginning in October, 1917, the Bureau has issued weekly a mimeographed report, called the "Weekly Health Index," which shows the deaths from all causes in practically all cities having a population of over one hundred thousand. These figures, which are compared with those of prior periods, are obtained from telegraphic reports from local registrars. The "Weekly Health Index" also in-

cludes a statement of data obtained from ten of the largest industrial insurance companies. In 1925, as a part of the general campaign to reduce the number of traffic accidents, the Bureau began the publication of a monthly report on automobile fatalities based upon telegraphic reports from the local registrars.

Occasionally the Bureau has made special reports on particular diseases, giving statistics in greater detail and subjecting them to careful analysis and research. Thus, in 1908 a separate report on "Tuberculosis in the United States" was published; in 1916 one appeared with the title "Mortality from Cancer and Other Malignant Tumors in the Registration Area of the United States, 1914"; and the epidemic of influenza during the war led to a report entitled "Special Tables of Mortality from Influenza and Pneumonia in Indiana, Kansas, and Philadelphia; September 1, to December 31, 1918."

Birth Statistics. Although the collection of birth statistics from state records was also authorized by the Permanent Census Act, it was found that the registration of births was too defective to supply sufficiently complete and accurate data. After some years of propaganda and preliminary work an effort was made in 1909 to collect these figures, but even then it ended in failure. It was not until 1915 that a birth registration area, consisting of the six New England states, New York, Pennsylvania, Michigan, Minnesota, and the District of Columbia, was established and the first of the annual compilations of birth statistics was made. As other states passed birth registration laws, usually with the guidance and encouragement of the Bureau, and administered them well enough to meet the standards set by the Bureau, they have been admitted to the registration area, until in 1928 it comprised forty-three states, the District of Columbia, and the Virgin Islands, with an estimated population of 110,394,593, or 93 per cent of the total of the United States. The states which up to that time had not established and maintained adequate systems for the registration of births were Nevada, New Mexico, South Carolina, South Dakota, and Texas.

As in the case of the mortality statistics, all the data on births are supplied by the local authorities administering the state registration systems, who furnish transcripts of their records to the Bureau for a small fee. The data recorded are the facts regarding the

child, such as sex and color and the names, age, nationality, color, and occupation of father and mother. This permits the Bureau not only to report the totals for the United States and for each state in the registration area but also to show the number of births by months, by color, by nativity of parents, by age of parents, and by sex, together with additional information regarding the number of children previously born to the mother, plural births, and the deaths of infants. Since 1915 these reports have been published annually and have been preceded by the usual press summaries of the most important results.

Marriage and Divorce. Because of their obvious importance as fundamental social facts, statistics of marriage and divorce have been collected annually by the Bureau of the Census since 1922. Prior to that time several reports had been made on the subject by the Bureau. The first gave statistics for the period from 1867 to 1907, those for the first twenty years having been prepared by the Commissioner of Labor. It had been intended to cover the ten years beginning with 1907 in the next report, but when it was begun the pressure of war work forced a curtailment so that only the calendar year 1916 was covered. Beginning with 1922, annual reports have been made.

The statistics of marriages were obtained in 1927 from the governments of twenty-seven states and the statistics of divorces from those of thirteen states. In all the other states the data on both were obtained from county officers for a small fee, the rate usually being ten cents for each satisfactory report from a county clerk concerning a divorce. The information regarding marriages consists only of the number of marriages performed, without classification, so that the census reports can give only the totals by states and counties and the rates according to population. The statistics of divorces are further classified by cause, by the party to which granted, by duration of marriage, and by the number of children. In 1927 for the first time statistics regarding the number of marriages annulled were secured.

Estimates of Population. In order to compute the birth and death rates and all other per capita rates, it is necessary to estimate the population of each of the various units concerned. For this reason and to satisfy the repeated demands of state and municipal

authorities, of trade associations, and business concerns, the Bureau since 1903 has made annual estimates of the population of the United States and its more important political subdivisions. Formerly all estimates of population were arrived at by the simple arithmetical method of projecting the increase between the two preceding censuses. At present estimates of the total population of the United States are based on the records of births, deaths, and net immigration. This gives a fairly accurate result. This method cannot be applied to the states or smaller units, as there are no figures on migration. For the population of states the total increase in the population, as estimated by the method given above, is assumed to be distributed among the states in the same proportion as the total increase between 1910 and 1920. For cities and counties there is used the old arithmetical method of projecting the increase between the last two censuses. This method admittedly produces some inaccuracies, but after considerable study the Bureau has decided it is the most satisfactory that can be used. In the last few years of the intercensal period, when the inaccuracies are greatest, the estimates are restricted to cities of over thirty thousand population. The estimates for the states and the principal cities are released as press notices, while those for the other political subdivisions are supplied upon request.

The Official Register. Beginning in 1907 and for every second year thereafter through 1921, the Bureau compiled and published the Official Register of the United States, which had previously been issued by other departments of the government. This report, containing the names, number, compensation, and state of legal residence of the employees of the various departments of the government, gave little work to the Bureau except that of assembling the lists submitted to it by the services of the government and of putting the report through the press. Upon the repeated recommendation of the Director of the Census the publication of the report was discontinued after 1921 on the ground that its slight usefulness did not justify the expenditure of \$50,000 which was necessary to print so large a volume. However, the publication of the Official Register was resumed with the issue for 1925 in a greatly modified form as the result of a new act directing the Bureau to publish annually a list of persons occupying administrative and supervisory positions (43 Stat. L., 1105).

Financial Statistics of State and City Governments. The annual publications of the Bureau include one containing statistics on the finances of the states and one containing financial statistics of cities having more than thirty thousand inhabitants. The series of state reports began with the year 1915 and has since appeared annually except for the year 1920. The financial statistics of cities from 1902 to 1908 were included in reports containing general statistics relating to the physical property, governmental organization, and other features of cities. Since 1908 the financial statistics have been published separately and continuously except for the year 1920. The reports on general statistics of cities, with varying subject matter, were continued until 1918, since when none has been issued. The financial statistics for both states and cities show the total and per capita receipts from the various sources of revenue; the total and per capita payments for expenses, interest, and outlays; the total and per capita indebtedness; and the assessed valuation of property, the basis of assessment, the taxes levied, the rates, and the methods of assessment.

The data for these reports are collected in part from the printed state and municipal reports, but primarily by agents of the Bureau, who are sent to the state capitals and the two hundred and fifty cities now having a population of over thirty thousand to secure the figures from their official records. In 1921, when the cost of this field work amounted to approximately \$50,000, the Bureau endeavored to make a radical change in the method of collecting the statistics. As the reports were primarily for the benefit of the city and state officers and as they had had ample time to adopt a standard classification of revenues and expenditures as recommended by the Bureau, an attempt was made to discontinue the collection of the data by agents of the Bureau and to have them furnished in a simplified form by the local authorities. This effort was not successful, because so many of the municipal officers were unwilling to cooperate to this extent and because others could not furnish the data in the form desired. Rather than abandon these reports the Bureau resumed its former practice of sending agents into the field to collect the data. The Bureau has also coöperated with the National Association of State Auditors, Comptrollers, and Treasurers and the International Association of Comptrollers and Accounting Officers

in an effort to formulate and have adopted a uniform classification of accounts so as to make figures obtained as nearly comparable as possible.

Business and Commodity Statistics. Perhaps the most characteristic feature of the work of the Bureau of the Census since 1920 has been the extension of its regular reports of statistics on various commodities. The list, on March 1, 1928, included the following:

Issued biennially:

Ties and poles: Purchases

Vegetable materials, used by tanners: Consumption

Issued annually:

Forest products:

Lumber, lath, and shingles: Production by states and (lumber only) by species.

Lumber: Cut of large mills, by states.

Wood pulp: Production by states and by processes, and consumption of pulp wood, by states and by species.

Cork products: Sales by manufacturers.

Farm equipment: Production and manufacturers' sales, by classes of products.

Lighting equipment: Production in values, by classes of products.

Clay products and nonclay refractories: Production and stocks, by classes of products and by states; Sand-lime brick—production and stocks.

Insecticides: Production, stocks, and sales by manufacturers, by container sizes.

Leather: Production by classes.

Canned vegetables: Pack of peas, tomatoes, corn, beans, and spinach.

Issued semi-annually:

Boots and shoes, other than rubber: Production, by states and principal classes.

Sulphuric acid and acid phosphates: Production, consumption, manufacturers' sales, and stocks of acid phosphates; and production, purchases, consumption, sales, and stocks of sulphuric acid in fertilizer plants.

Paints and varnishes: Production and sales by manufacturers, by classes of products.

Canned vegetables: Stocks of peas, tomatoes, and corn.

Issued quarterly:

Glues of animal origin: Production and stocks.

Gelatin, edible: Production and stocks.

Fats and oils, animal and vegetable: Factory production and consumption, stocks, exports, and imports, by classes; consumption, stocks and imports of raw materials, by classes.

Tobacco (leaf): Stocks held by manufacturers and dealers, by types.

Wheat and wheat flour: Stocks held by flour mills.

Wool: Stocks held by manufacturers and dealers, by conditions, classes, grades, and markets. (Prepared and published jointly with the Department of Agriculture.)

Electric locomotives, mining and industrial: Shipments, by classes.

Electrical goods: New orders booked by manufacturers.

Issued monthly:

Survey of Current Business.

Textiles:

Cotton: Consumption, stocks at mills and in public storage, and imports and exports.

Cotton spinning: Number and activity of spindles.

Cottonseed: Receipts, amounts crushed, and stocks.

Cottonseed products: Manufactured, shipped, and held at mills.

Wool: Consumption by textile mills, by conditions, classes and grades:

Wool manufactures: Activity of machinery.

Clothing, men's and boys': Cut, by classes of products.

Clothing, work: Cut, by kinds of material, shipments, and unfilled orders.

Hosiery: Production, by classes, shipments, stocks, new orders, and unfilled orders.

Knit underwear: Production, shipments, stocks, new orders, and unfilled orders.

Pyroxylin-coated textiles: Shipments and unfilled orders and pyroxylin spread.

Leather:

Hides, skins, and leather: Production (leather only) and stocks held by manufacturers and dealers, by classes.

Raw stocks of hides and skins held by tanners.

Sole, belting, and harness leather: Production and tanners' stocks and (for harness leather) unfilled orders and shipments.

Bag, case, strap, and upholstery leather: Production and tanners' stocks, by classes of leather.

Upper leather (cattle, calf, and kip) ; Production and tanners' stocks, by classes of leather.

Upper leather (goat, kid, cabretta, sheep and lamb, etc.) : Production and tanners' stocks, by classes of leather.

Sheep and lamb skins and cabretta skins : Production and tanners' stocks, both raw and finished, by classes of leather.

Glove and garment leather : Production and tanners' stocks, by classes.

Gloves and mittens, leather : Cut, by classes of products.

Iron and Steel :

Boilers, steel : New orders, by classes of installation.

Malleable castings : Production, shipments, and new orders.

Steel castings : Production and new orders, by classes.

Steel barrels : Production, shipments, stocks, and unfilled orders.

Steel furniture : New orders, shipments, and unfilled orders, by classes.

Fabricated structural steel : New orders and shipments.

Fabricated steel plate : New orders, by classes of products.

Enameled sanitary ware : New orders, shipments, and unfilled orders, by classes of products.

Machinery :

Stokers, mechanical : Manufacturers' sales, by classes of installation.

Locomotives, railroad : Shipments and unfilled orders of manufacturers, by classes.

Automobiles : Production (factory sales) of passenger cars and trucks, for the United States and Canada.

Trucks and tractors, electric, industrial : Shipments, by classes.

Pumps and water systems, domestic : Shipments, by classes.

Water softeners, domestic : New orders, shipments, and stocks.

Miscellaneous metal products :

Babbitt metal : Consumption.

Sheet-metal ware, enameled : Shipments, by classes.

Sheet-metal ware, galvanized : Production and shipments.

Plumbing fixtures : Wholesale prices, by classes and price index.

Fire-extinguishing equipment : Shipments, by classes of products.

Clay products :

Terra cotta : New orders, by districts.

Tile, floor and wall : Production, shipments, and stocks, by classes of products.

Vitreous-china plumbing fixtures : New orders, shipments, unfilled orders, and stocks, by grades and classes of products.

Porcelain plumbing fixtures: New orders, shipments, unfilled orders, and stocks, by grades and classes of products.

Box board: Production, activity, new orders, unfilled orders, shipments, and stocks of box board and stocks and consumption of waste paper.

Wood chemicals, crude and refined: Production, shipments, and stocks of acetate of lime and refined methanol; production and stocks of crude methanol, consumption and stocks of wood, and active capacities; for the United States and for Canada.

Boots and shoes, other than rubber: Production, by classes.

Wheat flour: Production of flour and offal and grindings of wheat.

Public utilities: Gross and net earnings.

Warehouses, merchandise: Space utilized and tonnage received.

Composite indexes: Production, stocks, and unfilled orders, by industries.

Issued semi-monthly during the ginning season (12 reports):

Cotton: Ginnings to specified dates.

Issued weekly:

Weekly business conditions (press summary).

While some of these reports, like those on tobacco, leather, and cotton, are made under direct legislative authority, most of them are made on the order of the Secretary of Commerce under his general authority. In the latter cases no statistics are collected until the manufacturers, merchants, or others who furnish the data regard the statistics as of sufficient importance to justify the undertaking, and in most instances the collections have in fact been made at their request. Consequently, items are added or dropped from time to time in accordance with the wishes of the industries concerned. Except in the case of cotton these reports involve no field work on the part of the Bureau as all the data are furnished to it by mail. For the collection of the statistics concerning the production, consumption, and stocks of cotton a special field force of about seven hundred and fifty local agents, working under contract, is maintained. The reports, made frequently, are distributed in mimeographed form, in some cases the only form in which the figures are made available, although usually they ultimately appear in print, at least in summary. The monthly Survey of Current Business, now including statistics on some seventeen hundred items,

consists chiefly of figures taken from reports of other government services, of trade associations, or of trade periodicals. But when not available through any of these agencies and when requested by a representative number of firms in the industry, the Bureau itself collects the data by mail.

Apportionment. Heretofore neither the Bureau of the Census nor the Department of Commerce has been directly concerned with the apportionment of Representatives. The results of the census of population have been transmitted to the House Committee on the Census, but the Committee and the House of Representatives have made their own determination of the problem of apportionment. However, the Bureau of the Census has generally made the computations required by the plans under consideration.

The act for the Fifteenth Census places certain definite work indirectly on the Bureau of the Census. While the act imposes the duty on the President, all the detailed work will necessarily be done by the Bureau.

The apportionment section of the Fifteenth Census Act requires the President to transmit to Congress, at the beginning of the second regular session of the Seventy-first Congress and of each fifth Congress thereafter, a statement showing the number of persons in each state, and the number of Representatives to which each state would be entitled under an apportionment of the then existing number of Representatives made in each of the following manners:

(1) By apportioning the then existing number of Representatives among the several states according to the respective numbers of the several states as ascertained under such census, by the method used in the last preceding apportionment, no state to receive less than one member ;

(2) By apportioning the then existing number of Representatives among the several states according to the respective numbers of the several states as ascertained under such census, by the method known as the method of major fractions, no state to receive less than one member ; and

(3) By apportioning the then existing number of Representatives among the several states according to the respective numbers of the several states as ascertained under such census, by the method known as the method of equal proportions, no state to receive less than one member.

Dr. Joseph A. Hill, assistant to the Director of the Census, has described the two methods as follows:¹

The Essential Features of the Two Methods

On account of fractions or remainders in the act quotes a mathematically exact apportionment according to population is impossible. That being the case the aim should be to make an apportionment in which the necessary deviations from a mathematically exact apportionment shall be as small as possible.

Two methods of accomplishing that result are under consideration—one, the method of equal proportions, and the other the method of major fractions.

Method of Equal Proportions

Process followed:

(1) In making an apportionment by the method of equal proportions the first step is to assign one Representative to each state, thus fulfilling the requirement of the Constitution that each state shall have at least one Representative. This disposes of forty-eight Representatives.

(2) The next step is to divide the population of each state by the following quantities in succession: $\sqrt{1 \times 2}$, $\sqrt{2 \times 3}$, $\sqrt{3 \times 4}$, etc.

(3) The quotients thereby obtained are arranged in order of size, beginning with the largest to form what is called a priority list, which indicates the order in which Representatives in excess of forty-eight shall be given out to the states. Representatives are then assigned in that order until the required number has been given out.

The above process produces a result in which the necessary deviations from exactness are as small as possible when measured by the relative or percentage difference in either the ratio of population to Representatives or the ratio of Representatives to population.

¹ Apportionment of Representatives in Congress amongst the several states. Hearing before the Committee on the Census, House of Representatives, Sixty-ninth Congress, second session, on H. R. 13471 . . . Pt. 3, p. 3. A discussion of the several methods is given in the hearings cited above and also in "Apportionment of Representatives, hearing before the Committee on the Census, House of Representatives, Seventieth Congress, first session, on H. R. 130."

A bibliography of 241 titles, including speeches in Congress, prepared by the Library of Congress, is given in the Congressional Record, Daily Edition, June 3, 1929, pp. 2325-31.

A review of the several acts relating to apportionment is given in the Congressional Record, Daily Edition, June 3, 1929, p. 2318.

Method of Major Fractions

Process followed:

(1) Here as in the method of equal proportions the first step is to assign one Representative to each state, making forty-eight in all.

(2) The next step is to divide the population of each state by the following quantities in succession: $1\frac{1}{2}$, $2\frac{1}{2}$, $3\frac{1}{2}$, etc.

(3) The quotients thereby obtained are then arranged in order of size, beginning with the largest and continuing the process until the total number of quotients plus forty-eight is one greater than the number of Representatives to be apportioned.

(4) The next step is to divide the population of the several states by a number midway between the last two quotients in the list.

(5) The last step is to assign to each state a number of Representatives equal to the whole number in the quotient which was obtained for that state by the above division plus one more Representative in case the quotient contains a major fraction.

This process gives a result in which the necessary deviations from exactness are as small as possible when measured by the absolute or subtraction difference in the ratio of representatives to population.

The Essential Difference

It is evident, then, that the essential difference in the two methods is in the mode or method of measuring deviations or divergences from exactness, the method of equal proportions using as a measure the relative or percentage difference in either of the ratios while the method of major fractions uses the absolute or subtraction difference in the ratio of Representatives to population.

The method used at the last apportionment was that of major fractions, so that after the Fifteenth Census is taken the apportionment will be stated by only two methods. It should be noted that the apportionment provision is permanent law and applies to succeeding censuses unless modified or repealed.

The results of apportioning 435 Representatives under the 1920 census under the methods of major fractions and equal proportions would have been as follows:²

² Apportionment of Representatives. Hearing before the Committee on the Census, House of Representatives, Seventieth Congress, first session on H. R. 130, p. 52.

Results of Apportioning 435 Representatives Under 1920 Census Figures

State	Population	Method of major fractions	Method of equal proportions
Very small states:			
Nevada	75,820	1	1
Wyoming	193,487	1	1
Delaware	223,003	1	1
Total	492,310	3	3
Small states:			
Arizona	309,495	1	1
Vermont	352,428	1	2
New Mexico	353,428	1	2
Idaho	430,442	2	2
New Hampshire	443,083	2	2
Utah	448,388	2	2
Montana	541,511	2	2
Rhode Island	604,397	2	3
South Dakota	631,239	3	3
North Dakota	643,953	3	3
Maine	768,014	3	3
Oregon	783,389	3	3
Colorado	939,161	4	4
Florida	968,470	4	4
Total	8,217,398	33	36
Medium-sized states:			
Nebraska	1,296,372	5	5
Washington	1,354,596	6	6
Connecticut	1,380,631	6	6
Maryland	1,449,661	6	6
West Virginia	1,463,701	6	6
South Carolina	1,683,724	7	7
Arkansas	1,752,204	7	7
Kansas	1,769,257	7	7
Mississippi	1,790,618	7	7
Louisiana	1,798,509	7	7
Oklahoma	2,028,283	8	8
Virginia	2,309,187	10	9
Tennessee	2,337,885	10	10
Alabama	2,348,174	10	10
Minnesota	2,385,656	10	10
Iowa	2,404,021	10	10
Kentucky	2,416,630	10	10
North Carolina	2,559,123	11	10

THE BUREAU OF THE CENSUS

Results of Apportioning 435 Representatives Under 1920 Census Figures
(Continued)

State	Population	Method of major fractions	Method of equal proportions
Medium-sized states:			
Wisconsin	2,631,305	11	11
Georgia	2,895,832	12	12
Indiana	2,930,390	12	12
New Jersey	3,155,900	13	13
Missouri	3,404,055	14	14
California	3,426,031	14	14
Michigan	3,668,412	15	15
Massachusetts	3,852,356	16	16
Total	60,492,513	250	248
Large states:			
Texas	4,663,228	19	19
Ohio	5,759,394	24	24
Illinois	6,485,280	27	27
Pennsylvania	8,720,017	36	36
New York	10,380,589	43	42
Total	36,008,508	149	148
Grand Total	105,210,729	435	435

The duties of the Bureau of the Census in connection with apportionment will consist solely of solving the mathematical problems involved in the several methods. No discretionary power is conferred, as the basic figures consist of the population and the number of members of the House at the time the census is taken.

After this report is submitted Congress may proceed to make a reapportionment on an entirely new basis. If the Congress to which the statement described above is submitted fails to pass a new apportionment act, each state then automatically becomes entitled to the number of Representatives shown in the statement which is based on the method used in the last preceding apportionment. Therefore if Congress fails to reapportion after the Fifteenth Census, the total number of Representatives will be 435, and the division among the states will be based on the method of major fractions.

If the automatic provision for reapportionment goes into effect the Clerk of the House of Representatives is required to send to the executive of each state a certificate of the number of Representatives to which the state is entitled. The new apportionment under this provision is effective in the second succeeding Congress after the one to which the statement is submitted.

The statement required of the President in regard to the Fifteenth Census will be made at the beginning of the second session of the Seventy-first Congress in December, 1930. This Congress expires by limitation on March 4, 1931, at which time the Clerk of the House of Representatives will certify the new apportionment to the governors of the several states. This apportionment will be effective for the Seventy-third Congress, which is elected in November, 1932. It will also be effective in the distribution of Presidential electors at the election of 1932.

If the automatic provision goes into effect the states will have from March 4, 1931, to the fall of 1932 to make the redistricting in case the number of Representatives is changed.

This interval between apportionment and the next election is greater than at the last apportionment, when the apportionment act was approved on August 8, 1911, and the apportionment became effective at the election of 1912. However the conditions in 1931 will probably differ from those in 1911. In the 1911 apportionment no state had a decrease in representation, but it is not unlikely that several states will have a smaller representation if the number of members of the House is kept at the present figure, 435.

The 1911 act specifically provided that states having an increase over their previous representation could elect the additional members at large if the states had not been redistricted. But this act applied only to the apportionment of 1911, and is not permanent law. It is a question whether the states obtaining additional representation under the apportionment of 1931 and not redistricted will elect only the additional members at large or will elect all members at large.

If there is a decrease in representation under the apportionment of 1931 it is clear that all the members must be elected at large unless the state is redistricted.

Miscellaneous. In addition to its regular work the Bureau of the Census is normally engaged in some unusual and non-recurring tasks. Congress has often assigned special statistical collections to it, or such work as devising methods for determining bases for immigration quotas. Employees of the Bureau have not infrequently been detailed to supervise the taking of special censuses of population in cities when requested by the city government. The tabulating machinery and force of the Bureau are continually being used to make tabulations desired by various services of the government, by state governments, or even by private agencies who are willing to pay the cost. Thus, most of the tabulating work of the New York State census of 1925 was done on Bureau machinery, with the state paying the expense incident to the work. The old census records are kept open for consultation by proper persons, and a force of clerks is constantly engaged in searching them for information requested by members of Congress, by federal, state, or city officers, and by individuals. In the latter case a charge covering the cost of the work is made.

CHAPTER III

ORGANIZATION

From the account that has been given of the history and activities of the Bureau of the Census it is evident that, unlike most of the other services of the government, the Bureau cannot have a fixed organization of its employees in divisions and units assigned continuously to some particular portion of the work. A few of the censuses taken by the Bureau are of such a nature and are so frequently taken that some of the employees of the Bureau work almost solely on them and constitute stable organization units. But most of the censuses taken by the Bureau, and especially the larger ones, occur at intervals, and consequently the Bureau has to have a fluid organization, the exact character of which at any one time depends upon the census or censuses under way and upon the portion of the work that is being done. Nevertheless, the Bureau has, of course, a permanent force of employees and is divided into various organization units which are maintained, at least in skeleton form, while the majority of the employees are detailed to whatever large inquiry or inquiries are being made.

The organization of the Bureau in September, 1928, was as follows:¹

1. Office of the Director
 1. Immediate Office of the Director
 2. Office of Assistant to the Director
 3. Office of the Chief Clerk
 4. Appointment Division
 5. Office of the Disbursing Clerk
 6. Division of Field Work (General)

¹ A chart giving the organization of the Bureau for the Fourteenth Census accompanied by a description of its work can be found in the report on the statistical work of the government prepared by the Bureau of Efficiency and published as 67 Cong., H. doc. 394, and in the annual report of the Director of the Census for 1920. In his annual report for 1917 the Director of the Census includes a chart of the organization of the Bureau as it then was. A list of the number, grades and salaries of the employees of the Bureau in September, 1928, is given below in Appendix I.

7. Division of Field Work (Fifteenth Census)
8. Division of Geography
9. Division of Machine Tabulation
10. Division of Revision and Results
11. Division of Population
12. Division of Agriculture
13. Division of Manufactures
14. Division of Distribution
15. Division of Survey of Current Business
16. Division of Vital Statistics
17. Division of Cotton and Tobacco Statistics
18. Division of Financial Statistics of States and Cities
19. Division of Statistics of Religious Bodies
20. Mechanical Laboratory

The subordinate units of the Bureau may be placed in four main groups, as follows: (1) The administrative divisions, which are concerned with routine management; (2) general institutional divisions, which do work for the producing divisions; (3) the producing divisions, which are responsible for the statistical output of the Bureau, and (4) the Mechanical Laboratory.

The administrative divisions are: (1) Office of the Chief Clerk; (2) Appointment Division; (3) Division of Field Work (General); (4) Division of Field Work (Fifteenth Census).

The general institutional divisions, which do work for all the statistical divisions, are as follows: (1) Geography; (2) Machine Tabulation; (3) Revision and Results.

The producing divisions, which are responsible for the statistical output of the Bureau, fall into three groups: (1) Those which have an abnormal peak load at certain periods—Population, Agriculture, Manufactures, and Distribution; (2) those which are compiling statistics annually under a fairly uniform load—Survey of Current Business, Vital Statistics, Cotton and Tobacco Statistics, and Financial Statistics of States and Cities; and (3) those set up for special undertakings during the intercensal period, of which there is only one at present—the Division of Statistics of Religious Bodies.

The special compilations undertaken at regular intervals during the intercensal period are generally assigned to one of the regular divisions listed above, but occasionally a special temporary unit is created if the subject matter is not related to the ordinary field covered by existing divisions.

Office of the Director. The Office of the Director of the Census consists only of the Director, the Assistant to the Director, and their immediate secretaries and administrative assistants, but it is the center of power and responsibility in the Bureau. The Director of the Census is primarily responsible for all the work of the Bureau, subject only to the indefinite and general supervision of the Secretary of Commerce, in whose department the Bureau is located, and of the President as the head of all the administrative services. He necessarily enjoys more administrative autonomy than is customarily granted to bureau chiefs, particularly in his power to appoint the temporary clerks necessary during the decennial censuses and to recommend to the Secretary of Commerce for appointment the supervisors of the field force taking the decennial census of population. The Director is appointed by the President, by and with the advice and consent of the Senate. Nevertheless, the Bureau of the Census is one of the bureaus of the government where the custom prevails of appointing as chiefs, men who are technically qualified either through long experience in the Bureau itself, as was the case of the present incumbent, or through professional attainments elsewhere. In only a very few instances has the appointment been solely political in character.

The Assistant to the Director is, as the title indicates, the second in command of the Bureau. For the Thirteenth and Fourteenth Censuses there was created the position of Assistant Director, which, however, was limited by law to the three years of the decennial census period. While the present Assistant to the Director served as Assistant Director during the Fourteenth Census and such a practice seems desirable and logical, it is not obligatory for the positions are entirely distinct and the temporary Assistant Director was appointed by the President. The appointment of the President was restricted, theoretically at least, by a provision in the law stating that the Assistant Director "shall be an experienced practical statistician."

The act for the Fifteenth Census provides two assistant directors—one to act as executive assistant and to perform in addition the duties of the chief clerk, the other to be "a person of known and tried experience in statistical work" and to act as "technical and statistical advisor." Both assistant directors for the Fifteenth Census are "to be appointed by the Secretary of Commerce, upon

the recommendation of the Director of the Census, in conformity with the civil service laws and rules."

Office of the Chief Clerk. Immediately under the direction of the Chief Clerk is a number of small organization units concerned with the internal administrative work of the Bureau. The nature of the activities of each is indicated by its name; supplies, telephones, telegraph, photostat room, emergency and rest rooms, fire organization, receiving, shipping and trucks, and correspondence and mail.

The act creating the permanent Census Bureau (32 Stat. L., 51) provides that the Chief Clerk shall act as Director during the absence of that officer. The acts for the Thirteenth and Fourteenth Censuses provided an Assistant Director for the decennial period, this officer acting for the Director during his absence. Under these laws the Chief Clerk became Acting Director in the absence of both the Director and the Assistant Director. The act for the Fifteenth Census provides two assistant directors, one of whom shall act as executive assistant and perform in addition the duties usually assigned to the Chief Clerk.

Office of the Appointment Clerk. Because of the wide fluctuations in the number of temporary employees, the Office of the Appointment Clerk is of greater importance than in most bureaus. Here are kept the eligible registers, the service cards, the efficiency ratings, and the other personnel records incident to the appointment of the clerical, subclerical, and special agent forces.

Office of the Disbursing Clerk. The Disbursing Clerk's Office is concerned with disbursing the funds of the Bureau and keeping the appropriate records incident to its finances. These involve auditing, keeping accounts, including a system of cost accounting, preparing pay rolls, and having custody of whatever cash happens to be in the possession of the Bureau. During the decennial census period, when the Bureau has on its payroll a temporary force numbering over one hundred thousand, this work is enormously expanded.

Division of Field Work (General). The Division of Field Work (General) has administrative supervision over all agents and enumerators in the field, except those concerned with the regular decennial census.

Division of Field Work (Fifteenth Census). On account of the large number of field employees—approximately 100,000—engaged in the work of the regular decennial census their administrative supervision is in the hands of the Division of Field Work (Fifteenth Census). In order to arrange properly for the increased personnel this unit is organized in advance of the enumeration period. It is a temporary unit which is disbanded at the end of the census period.

Division of Geography. The Division of Geography has a peak load prior to the beginning of the census period in the task of dividing the country into supervisor's and enumeration districts, but in order to accomplish this satisfactorily it must record, during the intercensal period, all changes in the boundaries of minor civil divisions, including cities, counties, and towns. It prepares the maps issued to supervisors showing the boundaries of their districts, as well as such maps as may be used in the printed reports. It also prepares the annual estimates of population, and has the custody of the old census records.

Division of Machine Tabulation. The operation of punching and sorting the cards and tabulating the totals is done in the Division of Machine Tabulation, which does this work for all the statistical divisions. As the schedules are edited and coded in the several statistical provisions, the punching involves merely the mechanical operation of the machines. The several statistical divisions indicate the totals that are desired for publication and the Division of Machine Tabulation makes the sorts and tabulations necessary to compile the figures.

This Division has a major peak load during the decennial census; it has a smaller peak load in the middle of the intercensal period, when the quinquennial census of agriculture is taken, and a third peak load every second year resulting from the biennial census of manufactures. It has a normal steady load resulting from the statistics collected annually and from the compilations made at regular intervals during the intercensal period.

Division of Revision and Results. Originally the Division of Revision and Results was a planning unit, which made recommendations regarding scope and method of investigations and

passed upon the statistical results and the interpretative text. As the work became stabilized these features have required a smaller staff and this work has been done largely under the direction of the Assistant to the Director. At present the Division of Revision and Results is practically a division of publications, in which the reports are edited for form and style, and which also distributed the books, so far as the distribution is made by the Bureau. The Official Register of the United States is prepared in this division. This book is not a statistical product, and its compilation involves merely the arrangement of the material submitted by the several departments and offices, the preparation of the copy, and the reading of the proof.

Division of Population. Of all the divisions of the Bureau the Division of Population most accurately repeats the history of the whole census organization before the establishment of the permanent Bureau. During the years of the decennial count of population the Division is the scene of intense activity and includes the largest number of employees, while during the intercensal periods only a skeleton of it is maintained, and to this are assigned some of the smaller investigations of the Bureau. At the head of the Division is the Chief Statistician for Population, and to relieve him of much of the purely administrative work there is a senior administrative assistant.

In the years between the decennial census periods the Division in addition to finishing up the work of the previous census and preparing plans for the next has conducted the censuses of marriage and divorce and of institutional population, and has made some other special enumerations. Toward the end of the intercensal period all special work of this character was shifted to other divisions in order to leave the Division of Population free to complete its plans for the Fifteenth Census.

Division of Agriculture. As a census of agriculture is now taken every five years the Division of Agriculture, under the Chief Statistician for Agriculture, has a much shorter interval between its periods of intense activity than the Division of Population. The current work of this division includes, also, the compiling of statistics of wheat milling and wheat flour production, and stocks held by flour mills; activity of wool machinery and consumption of wool

by textile mills, and stocks of wool in and afloat to the United States; stocks of hides, skins, and leather held by tanners, manufacturers and dealers; stocks in process in tanneries and production of leather by tanners and finishers; production of boots and shoes, other than rubber; and leather gloves and mittens cut.

Division of Manufactures. The third great branch of the decennial censuses consists of statistics of manufactures, mines, and quarries, and there is naturally a separate division of the Bureau of the Census for that work. This Division also does the work incident to the biennial censuses of manufactures, but those, as has already been noted, are narrower in scope and the amount of work is further decreased by the fact that the Bureau does not collect so much of the data itself but relies more on that furnished by the manufacturers individually and through their organizations. During the last, the Fourteenth, census the Division of Manufactures was divided into three large organization units, one to do the preliminary work and collect the data, the second to tabulate, write, and publish the reports on manufactures, and the third to tabulate and publish the reports on mines and quarries.

Division of Distribution. The Division of Distribution is a new unit which has developed during the last two years and which collects statistics on the distribution of commodities. This work was started in December, 1926, and so far has been confined to seventeen selected cities and the year 1926.

The act for the Fifteenth Census provides that distribution statistics shall be made a part of the decennial enumeration.

Division of Survey of Current Business. All material appearing in the Survey of Current Business is assembled in the division of that name, which also prepares the text and compiles percentages and relative figures. Some of the commodity statistics are collected by that division, but most of the material is compiled by other divisions of the Bureau, by other government organizations, and by private associations.

Division of Vital Statistics. The Division of Vital Statistics is one of the more stable organization units of the Bureau of the Census, since its work varies only slightly from year to year. It is organized into two major sections and three smaller subdivisions.

The Mortality Section does the work incident to the collection of data and publishing reports on deaths in the registration area, which now includes nearly all of the United States. The Birth Section does exactly comparable work in preparing the annual reports on births in the United States. A small unit of the Division makes what field investigations are necessary. Another prepares the weekly health index. A third, under a special agent, is assigned to the work of preparing the life tables published by the Bureau.

Toward the end of the intercensal period the Division of Vital Statistics also took over the compilation of statistics on marriage and divorce in order that the Division of Population, which had formerly compiled these figures, might concentrate its efforts on the preliminary work for the Fifteenth Census.

Division of Cotton and Tobacco Statistics. The Division of Cotton and Tobacco Statistics is another of the stable units of the Bureau since its work is continuous. Under the general direction of the Administrative Officer in Charge its activities are subdivided into five organization units; one concerned with the collection, examination, and compilation of cotton statistics; another with those on cottonseed and cottonseed products; the third with those on tobacco; the fourth with those on oils and fats; and a fifth which is the connecting link between the Washington office and the special field force collecting data on these commodities. There is a large force of local special agents employed on a part time, piece-price basis at an annual expenditure of about \$275,000. Accordingly, representatives of the Bureau visit the agents and inspect their methods of performing the work, recommending changes and selecting new agents when necessary and giving further instructions to such agents as need them.

The act of January 14, 1929 (45 Stat. L., 1079), transferred the collection of tobacco statistics to the Department of Agriculture, and this work will cease when the current report is issued.

The name of the division is fixed by law (39 Stat. L., 110), and the act of January 14, 1929, makes no provision for a change in the name.

Division of the Statistics of Cities. Another of the stable units of the Bureau is the Division of the Statistics of Cities. This is

divided into four organization units ; one to collect, edit, and tabulate the financial statistics of cities ; another to do similar work on the financial statistics of states ; a third on whatever general statistics of cities the Bureau collects ; and the fourth to prepare the text for the reports made by the Division.

The collection of statistics of institutional population was added to the work of the Division toward the end of the intercensal period in order to relieve the Division of Population, which had formerly compiled these figures.

Division of Statistics of Religious Bodies. The Division of Statistics of Religious Bodies is a temporary one created for a particular undertaking during the intercensal period. Ordinarily this work would be assigned to the Division of Population, but a separate unit has been established in order to give the Division of Population better opportunity to prepare for the Fifteenth Census.

Mechanical Laboratory. As the Bureau is so largely dependent on punching, sorting, and tabulation machines for the compilation of statistics, the Mechanical Laboratory is an important factor in its work. The Mechanical Laboratory not only keeps the machines in repair, but modifies them so that they will meet additional new demands, designs new apparatus, and builds the equipment. For the Fifteenth Census there has been developed in the laboratory a new punch machine which is believed has an output twice that of the one formerly used.

APPENDIX I

OUTLINE OF ORGANIZATION

EXPLANATORY NOTE

The purpose of Outlines of Organization in this series of Monographs is to show in detail the organization and personnel of the several services of the national government to which they relate. They have been prepared in accordance with the plan followed by the President's Commission on Economy and Efficiency in its outlines of the organization of the United States government.¹ In most of the Monographs the outlines differ from those mentioned in that whereas the Commission's report showed only organization units, the presentation in the Monographs has been carried far enough to show the personnel embraced in each organization unit.

These outlines are of value not merely as an effective means of making known the organization of the several services. If kept revised to date, they constitute exceedingly important tools of administration. They permit the directing personnel to see at a glance the organization and personnel at their disposal. They establish definitely the line of administrative authority and enable each employee to know his place in the system. They furnish the essential basis of plans for determining costs by organization division and sub-division. They afford the data for a consideration of the problem of classifying and standardizing personnel and compensation. Collectively they make it possible to determine the number and location of organization units of any particular kind, such as laboratories, libraries, blue-print rooms, or other plants, to what services attached and where located, or to determine what services are maintaining stations at any city or point in the United States. The Institute hopes that upon the completion of the present series, it will be able to prepare a complete classified statement of the technical and other facilities at the

¹ 62 Cong., H. doc. 458, 1912, 2 vols.

disposal of the government. The present monographs will then furnish the details regarding the organization, equipment, and work of the institution so listed and classified.

In the present instance for reasons, which were pointed out in the Chapter on Organization but which can be summarized in the statement that the Bureau of the Census has a fluid organization, it is not feasible to attempt to show the number and type of employees by organization units. During the three years of the decennial census period the Bureau has on its payroll a temporary field force numbering almost one hundred thousand and its office force is greatly expanded by numbers that vary with the progress of the work. During the intercensal period, although a skeleton at least of each of the various divisions of the Bureau is maintained, the bulk of the employees is assigned to whatever large inquiry or inquiries are being made. In practically every year of the intercensal period it is necessary to use temporary employees, the number of these, like the distribution of the permanent force, depending on the nature of the current work. Consequently, there are shown below an outline of the organization units and a grouping of personnel showing the class, grade, number, salary range, and average salary to be paid during the fiscal year ending June 30, 1929.

The grouping of personnel does not represent the condition on any given date, but gives a general picture for the entire year. It has been compiled from the supporting statements in the Budget for the fiscal year 1930.

OUTLINE OF ORGANIZATION

BUREAU OF THE CENSUS DEPARTMENT OF COMMERCE FISCAL YEAR 1928

The organization of the Bureau in September, 1928, was as follows:¹

- I. Office of the Director
 1. Immediate Office of the Director
 2. Office of Assistant to the Director
 3. Office of the Chief Clerk
 4. Appointment Division
 5. Office of the Disbursing Clerk
 6. Division of Field Work (General)

7. Division of Field Work (Fifteenth Census)
8. Division of Geography
9. Division of Machine Tabulation
10. Division of Revision and Results
11. Division of Population
12. Division of Agriculture
13. Division of Manufactures
14. Division of Distribution
15. Division of Survey of Current Business
16. Division of Vital Statistics
17. Division of Cotton and Tobacco Statistics
18. Division of Financial Statistics of States and Cities
19. Division of Statistics of Religious Bodies
20. Mechanical Laboratory

CLASSIFICATION OF PERSONNEL

BUREAU OF THE CENSUS
DEPARTMENT OF COMMERCE
FISCAL YEAR 1929

<i>Class and Grade</i>	<i>Designation</i>	<i>Number</i>	<i>Annual Salary Rate or Range</i>
Clerical, administrative, and fiscal service			
Grade			
15	Executive Officer (Director)	1	\$9,000
13	Senior Administrative Officer	6	5,200-6,000 (Av. 5,600)
12	Administrative Officer	1	5,000
		1	4,800
10	Junior Administrative Officer	1	3,500
9	Senior Administrative Assistant	19	3,200-3,700 (Av. 3,447)
8	Associate Editor	1	3,200
8	Administrative Assistant	3	2,900-3,400 (Av. 3,133)
7	Junior Administrative Assistant	14	2,600-3,100 (Av. 2,735)
7	Assistant Editor	1	3,100
6	Principal Clerk	30	2,300-2,800 (Av. 2,510)
5	Senior Clerk	76	2,000-2,500 (Av. 2,207)
5	Senior Clerk-Stenographer	4	2,000-2,500 (Av. 2,425)
5	Senior Office Draftsman	1	2,100

4 Clerk	98	1,800-2,100 (Av. 1,909)
4 Clerk-Stenographer	6	1,800-2,100 (Av. 1,940)
4 Head Operator, Office Devices	2	1,800-2,100 (Av. 1,890)
4 Office Draftsman	6	1,800-2,100 (Av. 1,830)
3 Assistant Clerk	166	1,620-1,920 (Av. 1,712)
3 Assistant Clerk-Stenographer	10	1,620-1,920 (Av. 1,722)
3 Senior Operator, Office Devices	2	1,680
2 Junior Clerk	162	1,440-1,740 (Av. 1,437)
2 Junior Stenographer	12	1,440-1,740 (Av. 1,610)
2 Senior Typist	1	1,620
2 Junior Clerk-Typist	7	1,440-1,740 (Av. 1,543)
2 Junior Clerk-Typist	1	1,500
2 Junior Clerk-Stenographer	14	1,440-1,740 (Av. 1,530)
2 Junior Operator, Office Devices	28	1,440-1,740 (Av. 1,551)
1 Underclerk	50	1,260-1,560 (Av. 1,308)
1 Underclerk-Typist	1	1,440
1 Underclerk-Typist	1	1,320
1 Under Operator, Office Devices	11	1,260-1,560 (Av. 1,380)

Professional Service

Grade

6 Chief Economic Analyst	3	5,600-6,400 (Av. 5,733)
6 Mechanical Engineer	1	5,600
3 Associate Economic Analyst	1	3,500
3 Associate Economic Analyst	1	3,400
2 Assistant Economic Analyst	2	2,600-3,100 (Av. 2,667)

Subprofessional Service

Grade

8 Principal Laboratory Mechanic	1	3,000
7	1	2,700
6 Senior Laboratory Mechanic	5	2,000-2,500 (Av. 2,240)

5 Laboratory Mechanic	4	1,800-2,100 (Av. 2,010)
4 Nurse	1	1,620
3 Assistant Laboratory Mechanic	7	1,620-1,920 (Av. 1,766)
3 Under Library Assistant	1	1,500
3 Junior Laboratory Mechanic	2	1,440-1,740 (Av. 1,560)
Custodial Service		
Grade		
6 Mechanic	1	1,920
3 Minor Mechanic	2	1,200-1,500 (Av. 1,500)
3 Senior Laborer	1	1,380
3 Messenger	14	1,200-1,500 (Av. 1,324)
2 Junior Laborer	9	1,080-1,380 (Av. 1,193)
1 Junior Messenger	4	600-840 (Av. 690)
Special Agent	75	\$4 to \$6 a day
	1	\$3.95 a day

In addition there is a large force of special agents employed on a part time piece-price basis, at a total cost of \$275,000.

The permanent personnel of the Bureau totals about twenty-three hundred persons of whom about nine hundred are in Washington, and fourteen hundred in the field, many of the field employees having only part time employment. During the decennial census period the personnel is greatly increased both in Washington and the field. The 1925 Census of Agriculture required twenty-seven thousand temporary employees. It is estimated that the Fifteenth Census will necessitate the employment of one hundred thousand persons in the field during the enumeration, and six thousand in Washington during period while the returns are being tabulated.

APPENDIX 2

CLASSIFICATION OF ACTIVITIES

EXPLANATORY NOTE

The Classifications of Activities in this series have for their purpose to list and classify in all practicable detail the specific activities engaged in by the several services of the national government. Such statements are of value from a number of standpoints. They furnish, in the first place, the most effective showing that can be made in brief compass of the character of the work performed by the service to which they relate. Secondly, they lay the basis for a system of accounting and reporting that will permit the showing of total expenditures classified according to activities. Finally, taken collectively, they make possible the preparation of a general or consolidated statement of the activities of the government as a whole. Such a statement will reveal in detail, not only what the government is doing, but the services in which the work is being performed. For example, one class of activities that would probably appear in such a classification is that of "scientific research." A subhead under this class would be "chemical research." Under this head would appear the specific lines of investigation under way and the services in which they were being prosecuted. It is hardly necessary to point out the value of such information in planning for future work and in considering the problem of the better distribution and coördination of the work of the government. The Institute contemplates attempting such a general listing and classification of the activities of the government upon the completion of the present series.

CLASSIFICATION OF ACTIVITIES

- I. Collecting, Tabulating, and Publishing Statistics
 1. The Decennial Census
 1. Population
 2. Agriculture, irrigation and drainage

3. Manufactures, mines and quarries
4. Distribution
5. Unemployment
6. The blind and deaf
7. Mortgages on homes
8. General reports and interpretative studies
2. Wealth, Public Debt, and Taxation
3. Religious Bodies
4. Transportation by Water
5. Institutional Population
6. Electrical Industries
7. Quinquennial Census of Agriculture
8. The Biennial Census of Manufactures
9. Vital Statistics
 1. Mortality statistics
 2. Birth statistics
10. Estimates of Population
11. The Official Register
12. Financial Statistics of State and City Governments
13. Business and Commodity Statistics
14. Marriage and Divorce
15. Distribution
16. Miscellaneous
2. Apportionment of Representatives in Congress

APPENDIX 3

PUBLICATIONS¹

Practically all the work of the Bureau of the Census leads to the publication of a report containing the statistics collected and compiled. Not all, however, since some of the statistics on various commodities are made public through the distribution of mimeographed sheets or postal cards and do not appear in print; this is particularly true of the monthly and quarterly statistics listed on pages 134-37.

The publications may be grouped into the following classes: (1) Annual reports, (2) reports of the decennial censuses, (3) numbered bulletins, (4) reports issued at regular intervals without serial number; (5) monographs, and (6) miscellaneous reports.

The annual report has been issued each year since the establishment of the permanent Census Office. Beginning with the Seventh Census (1850) annual reports were issued during the time the decennial Census Office was in operation except for the Eighth Census. The annual reports may be found in the assembled volumes of annual reports of the Departments of the Interior prior to 1903, of Commerce and Labor from 1903 to 1912, and of Commerce from 1913 to 1920, and in the Report of the Secretary of Commerce for 1928; an abstract appears in the annual reports of the Secretary of Commerce from 1921 to 1927. During recent years the report has appeared also in pamphlet form. The annual report is an administrative one, and gives an account of the work done during the year.

The reports of the decennial censuses embody most of the results of the decennial enumeration, although since the establishment of the permanent Census Office some of the data collected at the decennial census has been published during the intercensal period, and not as part of the decennial reports. In the list below the reports based on data collected at the decennial census have been included under the census, although they may not form part of the decennial series.

¹ These publications when available are sold by the Superintendent of Documents, Government Printing Office, Washington, D. C. With some exceptions a portion of the current publications of the Bureau are distributed without cost by the Bureau upon application.

No uniform system has been followed in the numbering of the decennial reports. For the first nine censuses and for the Eleventh Census the reports did not bear volume numbers, but were issued under descriptive titles, the subdivisions of the several titles being known as "parts." For the Tenth, Twelfth, Thirteenth, and Fourteenth Censuses, each report had a volume number as well as a title, the subdivisions under the general title being called parts.

There have been numbered bulletins or extra bulletins for every census from the Tenth to the Twelfth. The separates of the Thirteenth Census were also issued as bulletins, but without number. There is a series of numbered Bulletins of the Bureau of the Census which was started soon after the permanent Bureau was organized. This series is still being issued, but for several years past has been confined to the cotton and tobacco statistics.

The reports which are now issued at regular intervals as a rule bear a descriptive title with the year to which the figures apply. The exceptions to this are the cotton and tobacco statistics which have been issued in the numbered bulletins series, but also with descriptive title.

The Monograph series was started after the enumeration of 1920. All except one give interpretations of the figures of that year, and include material previously contained in the regular reports of the decennial census.

What are here called miscellaneous reports include all other publications. They range from extensive special statistical publications to circulars of information. They are issued under a title without serial number.

Most of the larger reports have been issued in separate form by chapters and other subdivisions. Many of the reports have also been issued in advance editions, with the same title as the complete report, and in some cases the title page does not indicate that the report is a preliminary one. The letter of transmittal and the introductory pages generally give this information.

In the list below are given the reports of the fourteen decennial censuses, the publications that have appeared at regular intervals, and a few of the more important miscellaneous publications.

The only complete list of census publications available is the one entitled "Circular of information concerning Census publications, 1790-1916." Publications available for distribution are listed

in the pamphlet entitled "List of publications of the Department of Commerce" issued annually in May by the Division of Publications of that Department; monthly supplements to this list are also published. Price List 70 of the Superintendent of Documents entitled "Census Publications," contains a list of publications for sale by his office.

First Census: 1790

Return of the whole number of persons within the several districts of the United States.

Second Census: 1800

Return of the whole number of persons within the several districts of the United States.

Third Census: 1810

Aggregate amount of each description of persons within the United States of America, and the territories thereof.

A statement of the arts and manufactures of the United States of America for the year 1810.

Fourth Census: 1820

Census for 1820.

Digest of accounts of manufacturing establishments in the United States, and of their manufactures.

Fifth Census: 1830

Fifth Census; or, enumeration of the inhabitants of the United States.

Abstract of returns of Fifth Census.

Sixth Census: 1840

Sixth Census; or, enumeration of the inhabitants of the United States.

Statistics of the United States of America. [Manufactures, Agriculture, mines and quarries, fisheries, forest products.]

Compendium of the enumeration of the inhabitants and statistics of the United States.

Census of pensioners for Revolutionary or military services.

Seventh Census: 1850

Seventh Census of the United States.

Mortality statistics of the Seventh Census.

Digest of the statistics of manufactures.

Statistical view of the United States—Compendium of the Seventh Census.

Abstract of the Seventh Census.

Eighth Census: 1860

Preliminary report on the Eighth Census.

Population of the United States in 1860.

Manufactures of the United States in 1860.

Agriculture of the United States in 1860.

Statistics of the United States in 1860.

Ninth Census: 1870

- Population and social statistics.
- Vital statistics of the United States.
- Statistics of the wealth and industry of the United States.
- Compendium of the Ninth Census.
- Statistical atlas of the United States.

Tenth Census: 1880

- I. Population of the United States.
 - II. Manufactures of the United States.
 - III. Statistics of agriculture.
 - IV. Agencies of transportation.
 - V. Cotton production in the United States. Part I. Mississippi Valley and Southwestern states.
 - VI. Cotton production in the United States. Part II. Eastern Gulf, Atlantic, and Pacific states.
 - VII. Valuation, taxation, and public indebtedness.
 - VIII. The newspaper and periodical press; Alaska, seal islands; shipbuilding.
 - IX. Forests of North America (exclusive of Mexico).
 - X. Petroleum, coke, and building stones.
 - XI. Mortality and vital statistics. Part I.
 - XII. Mortality and vital statistics. Part II.
 - XIII. Precious metals.
 - XIV. Mining laws and regulations.
 - XV. Mining industries (exclusive of precious metals).
 - XVI. Water power of the United States. Part I.
 - XVII. Water power of the United States. Part II.
 - XVIII. Social statistics of cities: Part I. New England and the Middle states.
 - XIX. Social statistics of cities: Part II. Southern and Western states
 - XX. Statistics of wages, necessities of life, trades societies, and strikes and lockouts.
 - XXI. Defective, dependent, and delinquent classes of the population.
 - XXII. Power and machinery employed in manufactures, and the ice industry of the United States.
 - Compendium of the Tenth Census: Part I.
 - Compendium of the Tenth Census: Part II.
 - The oyster industry. (Monograph).
- Eleventh Census: 1890*
- Population of the United States:
 - Part I. Population.
 - Part II. Population; occupations, education.
 - Insane, feeble-minded, deaf and dumb, and blind.

Crime, pauperism, and benevolence:

Part I. Analysis of statistics.

Part II. General tables.

Vital and social statistics.

Part I. Analysis and rate tables.

Part II. Cities of 100,000 population and upward.

Part III. Statistics of deaths.

Part IV. Statistics of deaths.

Agriculture, irrigation, and fisheries.

Manufacturing industries:

Part I. Totals for states and industries.

Part II. Statistics of cities.

Part III. Selected industries.

Mineral industries.

Population and resources of Alaska.

Statistics of churches.

Indians taxed and Indians not taxed in the United States (except Alaska).

Insurance business in the United States:

Part I. Fire, marine, and inland insurance.

Part II. Life insurance.

Real-estate mortgages.

Farms and homes: Proprietorship and indebtedness.

Transportation business:

Part I. Transportation by land.

Part II. Transportation by water.

Wealth, debt, and taxation.

Part I. Public debt.

Part II. Valuation and taxation.

Compendium of the Eleventh Census:

Parts I-III. Social statistics of cities (Special report).

Abstract of the Eleventh Census.

Statistical atlas of the United States.

Twelfth Census: 1900

I. Population. Part I.

II. Population. Part II.

III. Vital Statistics. Part I. Analysis and ratio tables.

IV. Vital Statistics. Part II. Statistics of deaths.

V. Agriculture. Part I. Farms, live stock, and animal products.

VI. Agriculture. Part II. Crops and irrigation.

VII. Manufactures. Part I. United States by industries.

VIII. Manufactures. Part II. States and territories.

IX. Manufactures. Part III. Special reports on selected industries.

X. Manufactures. Part IV. Special reports on selected industries.

Abstract of the Twelfth Census.

Statistical atlas.

Supplementary analysis and derivative tables. Population ; occupations ; vital statistics ; Negroes.

Occupations at the Twelfth Census.

Statistics of women at work.

Employees and wages.

The blind and the deaf.

Thirteenth Census: 1910

Abstracts of the Twelfth Census.

I. Population. General report and analysis.

II. Population. Reports by states, with statistics for counties, cities, and other civil divisions—Alabama to Montana.

III. Population. Reports by states, with statistics for counties, cities, and other civil divisions—Nebraska to Wyoming ; Alaska, Hawaii, and Porto Rico.

IV. Population. Occupation statistics.

V. Agriculture. General report and analysis.

VI. Agriculture. Reports by states, with statistics for counties—Alabama to Montana.

VII. Agriculture. Reports by states, with statistics for counties—Nebraska to Wyoming ; Alaska, Hawaii, and Porto Rico.

VIII. Manufactures. General report and analysis.

IX. Manufactures. Reports by states, with statistics for principal cities.

X. Manufactures. Reports for principal industries.

XI. Mines and quarries.

Abstract of the Census.

Statistical atlas of the United States.

The blind in the United States, 1910.

Deaf mutes in the United States, 1910.

Indian population in the United States and Alaska.

Fourteenth Census: 1920

I. Population. Number and distribution of inhabitants.

II. Population. General reports and analytical tables.

III. Population. Composition and characteristics of the population, by states.

IV. Population. Occupations.

V. Agriculture. General report and analytical tables.

VI. Agriculture. Reports for states, with statistics for counties, in three parts.

VII. Agriculture. Irrigation and drainage.

VIII. Manufactures. General report and analytical tables.

IX. Manufactures. Reports for states with statistics for principal cities.

X. Manufactures. Reports for selected industries.

XI. Mines and Quarries. General report and analytical tables and reports for states and selected industries.

Abstract of the Fourteenth Census.

Statistical atlas of the United States.

Children in gainful occupations.

Monographs.

1. Increase of population.
2. Mortgages on homes.
3. The integration of industrial operation.
4. Farm tenancy.
5. School attendance.
6. Farm population.
7. Immigrants and their children.

Deaf-mute population of the United States, 1920.

Blind population of the United States, 1920.

Reports Appearing at Regular Intervals.

Census of Manufactures. In addition to the volumes published by the decennial censuses, figures on manufactures were collected in 1905 and 1915, and in 1921 and biennially thereafter. The figures all relate to the preceding year. The report for 1905 comprises four volumes, the one for 1915 appeared in two volumes and an abstract, and those for 1921 and thereafter in one volume. Many separate chapters have been published for states and industries.

Electrical Industries. Reports on the electrical industries have been published for 1922 and every fifth year thereafter. This classification includes central light and power stations, steel railways, telegraph, and telephone. At times the four subdivisions have been issued only under the names of the four subclassifications, at times in a general report with the title "Electrical industries," and at times under the general title "Census of electrical industries," with subtitle for each subordinate classification.

Transportation by water. Published for 1906 and every tenth year thereafter.

Census of Agriculture. The first intercensal collection of statistics of agriculture was taken in 1925. As this volume goes to press only two volumes of the combined report had been published, but all the chapters had been issued in separate form. This census will hereafter be taken in the middle of the intercensal period. Early reports on agriculture will be found in the volumes of the decennial censuses.

Forest Products. Bulletins on forest products were issued from 1907 to 1912, the report for 1912 being limited to lumber, lath, and shingles. Beginning with 1922 figures have been compiled and published under the following subtitles for the years indicated:

Lumber, lath, and shingles, 1922, 1924, 1926

Pulpwood production and wood-pulp consumption, 1922, 1923, 1924, 1925, 1926

Turpentine and rosin, 1922, 1923, 1924

Consumption of vegetable tanning materials, 1923

Cross ties and poles purchased and preserved, 1923, 1925

Mine timber used underground, 1923

In the odd-numbered years beginning with 1921, the statistics on these subjects are included in the reports of the biennial census of manufactures. For years prior to 1921 not covered by the census publications reports were issued by the Forest Service.

Cotton Production and Distribution. Published for each year beginning with 1899, the reports prior to the one for 1905 being limited to production only. The production figures alone are generally published in advance under the title "Production in the United States," All these reports are in the series of numbered bulletins.

Stocks of Leaf Tobacco and American Production, Import, Export, and Consumption of Tobacco Products. Issued annually beginning with 1917, all reports being in the numbered series. As this work was transferred to the Department of Agriculture by the act of January 14, 1929, the bulletin for 1928 will probably be the last one issued by the Bureau of the Census.

Animal and Vegetable Fats and Oils. An annual publication on production and distribution of animal and vegetable fats and oils has been published for each year beginning with 1919, the first printed report being that for 1920 containing figures for 1919 and 1920.

Wealth, Debt, and Taxation. Decennial reports on this general subject have been published beginning with the one for 1902, although the second one covered the year 1913. The one for 1922 was divided into five separate reports with the following subtitles:

Digest of state laws relating to taxation and revenue

Estimated national wealth

Public debt

Taxes collected

Assessed valuation and tax levies

Earlier material on the same subject was included in the final reports of the Seventh to the Eleventh Censuses. The financial statistics of states and cities cover also debt and taxation for those units.

Financial Statistics of States. Published for each year beginning with 1915, except 1920.

Financial Statistics of Cities. Included in reports on general statistics of cities for the years 1902 to 1908; separate volume published for each year after 1908, except for 1920.

General Statistics of Cities. Published 1902, 1903, 1905, 1907, 1909, 1915, 1916. Prior to 1909 published under title "Statistics of Cities"; from 1909 to 1916 issued under title "General Statistics of Cities." The report for 1917 was confined to five departments, and that for 1918 to municipal markets.

Mortality Statistics. One volume contains figures for 1900 to 1904; thereafter a separate volume was issued for each year.

Birth Statistics. Published annually beginning with the volume for 1915.

Marriage and Divorce. Two volume report covering the years 1867 to 1906; report for 1916, annual volumes for 1922 and thereafter.

Religious Bodies. Published for every tenth year beginning with 1906.

Institutional Population. Figures on institutional population have been collected mainly for 1904, 1910, and 1923. It is probable that annual statistics will be published for 1924 and later years on feeble-minded and epileptics in institutions and on prisoners. The reports heretofore issued are as follows:

Benevolent institutions, 1904

Insane and feeble-minded in hospitals and institutions, 1904

Benevolent institutions, 1910

Insane and feeble-minded in institutions, 1910

Summary of state laws relative to care of the dependent classes, 1913

Statistical directory of state institutions for defective, dependent, and delinquent classes, 1916

Feeble-minded and epileptics in institutions, 1923

Patients in hospitals for mental disease, 1923

Hospitals and dispensaries, 1923

Paupers in almshouses, 1904

Paupers in almshouses, 1910

Paupers in almshouses, 1923

Prisoners and juvenile delinquents in institutions, 1904
Prisoners and juvenile delinquents, 1910
Children under institutional care, 1923
Number of prisoners in penal institutions, 1922 and 1917
Prisoners, 1923

Official Register of the United States. Published for each odd-numbered year from 1907 to 1921; issued for each year beginning with 1925.

Survey of Current Business. Issued monthly beginning with July 1921; up to December, 1925, this was issued as a supplement to Commerce Reports. Advance material was published in separate form beginning with December, 1922; at first this was issued semi-monthly, later it appeared weekly. It is now known as the Weekly Supplement.

Some of the material appearing in the Survey of Current Business, as well as earlier material, has been brought together in the "Record Book of Business Statistics," issued in three parts from 1927 to 1929 with the following subtitles:

Part I. Textiles. 1927
Part II. Metals and machinery. 1928
Part III. Fuels, automobiles, and rubber. 1929

It is announced that Part IV, Hides, leather, and paper, is in course of preparation; this will probably be followed by other parts dealing with additional commodities.

These publications include all monthly and quarterly data on items now shown in the Survey of Current Business on which such data are available for periods prior to 1924; no data for periods prior to 1909 are included, but there are references to such data as are known to be available.

Miscellaneous Publications.

History and growth of the United States Census, 1790-1890.
Census of the Philippine Islands, 4 vols. 1903.
Heads of families—First census of the United States, 1790.
12 vols.
Negro population in the United States, 1790-1915.
Mortality rates, 1910-1920.
United States life tables, 1890, 1901, 1910, and 1901-1910.
A century of population growth, 1790-1890.

APPENDIX 4

LAWS¹

(A) INDEX TO LAWS

Organization

Bureau of the Census established as a permanent body.....	32 Stat. L., 51
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Leave of absence for temporary employees.....	44 Stat. L., 1205
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Enumerators	40 Stat. L., 1296-7
Special agents	32 Stat. L., 52
	Public No. 13, 71st Cong.
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	Public No. 13, 71st Cong.

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Agriculture	Public No. 13, 71st Cong.
Apportionment	Public No. 13, 71st Cong.
Cities	32 Stat. L., 52
Cotton	32 Stat. L., 53
	37 Stat. L., 198
	39 Stat. L., 436
	43 Stat. L., 31
Decennial census	Public No. 13, 71st Cong.
Dependent, defective, and delinquent classes.....	32 Stat. L., 52
Distribution	Public No. 13, 71st Cong.
Electrical industries	32 Stat. L., 52
Fishing industry	32 Stat. L., 52
Hides and leather.....	41 Stat. L., 1057
Manufactures	32 Stat. L., 52
	Public No. 13, 71st Cong.

¹ Under the date of July 1, 1917, the Bureau of the Census published a compilation of all the laws and legal provisions then in force relating to the Bureau, including the general administrative provisions affecting its work and organization. Those reproduced here are only the most important relating specifically to the Bureau.

Official Register	43 Stat., 1105
Religious bodies	32 Stat. L., 52
Unemployment	Public No. 13, 71st Cong.
Vital statistics	32 Stat. L., 52
Water transportation and express business.....	32 Stat. L., 52
Wealth, debt, and taxation.....	32 Stat. L., 52
In general	32 Stat. L., 51
	32 Stat. L., 827, 829, 830

Appropriations

Fiscal year 1929	45 Stat. L., 88
Fiscal year 1930, including part of expenses of Fifteenth Census.	45 Stat. L., 1119

(B) COMPILATION OF LAWS

1902—Act of March 6, 1902 (32 Stat. L., 51) as amended—An Act To provide for a permanent Census Office.

[SECTION 1]. That the Census Office temporarily established in the Department of the Interior in accordance with an Act entitled "An Act to provide for taking the Twelfth and subsequent censuses," approved March third, eighteen hundred and ninety-nine, is hereby made a permanent office.

SEC. 2. That the work pertaining to the Twelfth Census shall be carried on by the Census Office under the existing organization until the first day of July, nineteen hundred and two, when the permanent Census Office herein provided for shall be organized by the Director of the Census.

SEC. 3. That the permanent Census Office shall be in charge of a Director of the Census, appointed by the President, by and with the advice and consent of the Senate, who shall receive an annual salary of six thousand dollars.² It shall be his duty to superintend and direct the taking of the Thirteenth and subsequent censuses of the United States and to perform such other duties as may be imposed upon him by law.

SEC. 4.³ That there shall be in the Census Office, to be appointed by the Director thereof, with the approval of the head of the Department to which the said Census Office is attached, four chief statisticians, who shall be persons of known and tried experience in statistical work, at an annual salary of two thousand five hundred dollars each; ⁴ a chief clerk, at an annual salary of two thousand five hundred dollars, who, in the absence of the Director, shall serve as acting director; a disbursing clerk, who shall also act as appointment clerk, at an annual salary of two thousand five hundred dollars; one stenographer, at an annual salary of one thousand five hundred dollars; four expert chiefs of division, at an annual salary of one thousand eight hundred dollars each; six clerks of class three; ten clerks of class two; and such number of clerks of class one, and of clerks, copyists, computers, and skilled laborers, with salaries at the rate of not less than six hundred dollars nor more than one thousand dollars per annum, messengers, assistant messengers, watchmen, unskilled laborers, and charwomen as may be necessary for the proper and prompt performance of the duties required by law. The

² As amended by act of June 30, 1902 (32 Stat. L., 507).

³ Salaries are now fixed under the provisions of the Classification Act of 1923 (42 Stat. L., 1491) as amended May 28, 1928 (45 Stat. L., 776).

disbursing clerk herein provided for shall, before entering upon his duties, give bond to the Secretary of the Treasury in the sum of twenty-five thousand dollars, which bond shall be conditioned that the said officer shall render a true and faithful account to the proper accounting officers of the Treasury quarterly of all moneys and properties which shall be received by him by virtue of his office, with surety, to be approved by the Solicitor of the Treasury. Such bond shall be filed in the office of the Secretary of the Treasury, to be by him put in suit upon any breach of the conditions thereof.

SEC. 5. That all employees of the Census Office, at the date of the passage of this Act, except unskilled laborers, may be appointed by the Director of the Census with the approval of the head of the Department to which said Census Office is attached, and when so appointed shall be and they are hereby placed, without further examination, under the provisions of the civil service Act approved January sixteenth, eighteen hundred and eighty-three, and the amendments thereto and the rules established thereunder; and persons who have served as soldiers in any war in which the United States may have been engaged, who have been honorably discharged from the service of the United States, and the widows of such soldiers, shall have preference in the matter of employment; and all new appointments to the permanent clerical force in the Census Office hereby created shall be made in accordance with the requirements of the civil service Act above referred to.

SEC. 6. That all the provisions of the Act of March third, eighteen hundred and ninety-nine, relating to the Twelfth Census, not inconsistent with the provisions of this Act, shall remain in full force and effect for the taking of the Thirteenth and subsequent censuses.⁴

SEC. 7.⁵ That after the completion and return of the enumeration and of the work upon the schedules relating to the products of agriculture and to manufacturing and mechanical establishments provided for in section seven of the Act of March third, eighteen hundred and ninety-nine, entitled 'An Act to provide for taking the Twelfth and subsequent censuses,' the Director of the Census is hereby authorized decennially to collect statistics relating to the defective, dependent, and delinquent classes; to crime, including judicial statistics pertaining thereto, provided that such statistics shall include information upon the following questions, namely: Age, sex, color, race, nativity, parentage, literacy by race, color, nativity, and parentage, and such other questions relating to these subjects as the Director in his discretion may deem proper; to social statistics of cities; to public indebtedness, valuation, taxation, and expenditures; to religious bodies; to transportation by water, and express business; to mines, mining, quarries, and minerals, and the production and value thereof, including gold in divisions of placer and vein, and silver mines, and the number of men employed, the average daily wage, average working time, and aggregate earnings in the various branches and aforesaid divisions of the mining and quarrying industries; to savings banks and other savings institutions, mortgage, loan, and investment companies, and similar institutions; to the fishing industry in cooperation with the Bureau of Fisheries; and every five years to collect

⁴ The act of March 3, 1899 (30 Stat. L., 1014), providing for the Twelfth Census, was repealed by Sec. 33 of the act of July 2, 1909 (36 Stat. L., 10), providing for the Thirteenth Census.

⁵ As amended June 7, 1906 (34 Stat. L., 218).

statistics relating to street railways, electric light and power, telephone, and telegraph business. And the Director of the Census shall prepare schedules containing such interrogatories as shall in his judgments be best adapted to elicit the information required under the subjects, with such specifications, divisions, and particulars under each head as he shall deem necessary to that end; and all reports prepared under the provisions of this section shall be designated as 'Special Reports of the Census Office.' For the purpose of securing the statistics required by this section the Director of the Census may appoint special agents when necessary, and such special agents shall receive compensation as hereinafter provided. And the Director of the Census shall edit, index, and publish the Official Register of the United States, and the provisions of existing law imposing that duty upon the Department of the Interior are hereby repealed, and the data to be included in the Official Register, which is now required to be transmitted to the Secretary of the Interior, shall hereafter be transmitted to the Director of the Census.

SEC. 8.⁶ That there shall be a collection of the statistics of the births and deaths in registration areas for the year nineteen hundred and two, and annually thereafter, the data for which shall be obtained only from and restricted to such registration records of such States and municipalities as in the discretion of the Director possess records affording satisfactory data in necessary detail, the compensation for the transcription of which shall not exceed four cents for each birth or death reported; or a minimum compensation of twenty-five dollars may be allowed, in the discretion of the Director, in States or cities registering less than five hundred deaths or five hundred births during the preceding year.

SEC. 9. That in the year nineteen hundred and five, and every ten years thereafter, there shall be a collection of the statistics of manufactures,⁷ confined to manufacturing establishments conducted under what is known as the factory system, exclusive of the so-called neighborhood and mechanical industries; and the Director is hereby authorized to prepare such schedules as is his judgment may be necessary to carry out the provisions of this section; and that in addition to the statistics now provided for by law the Director of the Census shall annually collect the statistics of the cotton production of the country as returned by the ginner and bulletins giving the results of the same shall be issued weekly beginning September first of each year and continued till February first following;⁸ and that the Director of the Census shall make, from time to time, any additional special collections of statistics relating to any branch of agriculture, manufacture, mining, transportation, fisheries, or any other branch of industry that may be required of him by Congress.

SEC. 10. That section seventeen of the act of March third, eighteen hundred and ninety-nine, is hereby amended so as to read as follows:

"SEC. 17. That the special agents appointed under the provisions of this Act have like authority with the enumerators in respect to the subjects

⁶ As amended April 27, 1904 (33 Stat. L., 362).

⁷ Superseded by Sec. 32 of the act of March 3, 1919 (40 Stat. L., 1291, 1301), providing for a biennial census of manufactures.

⁸ Provision regarding dates of publication superseded by Sec. 2 of act of April 9, 1924 (43 Stat. L., 31).

committed to them under this Act and shall receive compensation at rates to be fixed by the Director of the Census: *Provided*, That the same shall in no case exceed six dollars per day and actual necessary traveling expenses and an allowance in lieu of subsistence not exceeding three dollars per day⁹ during their necessary absence from their usual place of residence: *And provided further*, That no pay or allowance in lieu of subsistence shall be allowed special agents when employed in the Census Office on other than the special work committed to them, and no appointments of special agents shall be made for clerical work: *And provided further*, That the Director of the Census is hereby authorized in his discretion to employ the clerical force of the Census Office for such field work as may be required to carry out the provisions of sections seven, eight, and nine, in lieu of employing special agents for that purpose; and such employees when so employed shall be allowed, in addition to their regular compensation, actual necessary traveling expenses and an allowance in lieu of subsistence not exceeding three dollars⁹ per day during their necessary absence from the Census Office. All employees of the Census Office shall be citizens of the United States."

SEC. II. That the printing office established in the Census Office is hereby abolished to take effect July first, nineteen hundred and two, and the outfit and equipment therein shall be turned over to the Public Printer: and the Director of the Census is hereby authorized and directed to have printed, published, and distributed, from time to time, bulletins and reports of the preliminary and other results of the various investigations authorized by law; and all of said printing and binding shall be done by the Public Printer at the Government Printing Office.

1903—Act of January 12, 1903 (32 Stat. L., 767)—An Act Providing for the transfer of census records and volumes to the Census Office, and for other purposes.

That the Secretary of the Interior be, and he hereby is, authorized and directed to transfer to the Census Office all of the schedules, records, and volumes of reports of the eleven decennial enumerations from seventeen hundred and ninety to eighteen hundred and ninety, inclusive, that may be in the possession of the Department of the Interior, which transfer shall not change the allotment of such reports heretofore made to Senators and Representatives; and the Director of the Census is hereby authorized, upon the request of a governor of any State or Territory, or the chief officer of any municipal government, to furnish such governor or municipal officer with copies of so much of said files or records as may be requested, at the discretion of the Director of the Census, upon payment of the actual cost of making such copies; and the amounts so received shall be covered into the Treasury of the United States, to be placed to the credit of and in addition to the appropriation made for the taking of the census.

⁹ Reimbursement for subsistence is now governed by the act of June 3, 1926 (44 Stat. L., 688), a general act applying to all services.

1903—Act of February 14, 1903 (32 Stat. L. 825)—An Act To establish the Department of Commerce and Labor.¹⁰

[SECTION 1]. That there shall be at the seat of government an executive department to be known as the Department of Commerce and Labor, and a Secretary of Commerce and Labor, who shall be the head thereof, who shall be appointed by the President, by and with the advice and consent of the Senate, . . . whose term and tenure of office shall be like that of the heads of the other Executive Departments; and section one hundred and fifty-eight of the Revised Statutes is hereby amended to include such Department, and the provisions of title four of the Revised Statutes, including all amendments thereto, are hereby made applicable to said Department. The said Secretary shall cause a seal of office to be made for the said Department of such device as the President shall approve, and judicial notice shall be taken of the said seal.

* * * *

That . . . the Census Office, and all that pertains to the same, be, and the same hereby is, transferred from the Department of the Interior to the Department of Commerce and Labor, to remain henceforth under the jurisdiction of the latter; . . . and that the Secretary of Commerce and Labor shall have control of the work of gathering and distributing statistical information naturally relating to the subjects confided to his Department; and the Secretary of Commerce and Labor is hereby given the power and authority to rearrange the statistical work of the bureaus and offices confided to said Department, and to consolidate any of the statistical bureaus and offices transferred to said Department; and said Secretary shall also have authority to call upon other Departments of the Government for statistical data and results obtained by them; and said Secretary of Commerce and Labor may collate, arrange, and publish such statistical information so obtained in such manner as to him may seem wise.

* * * *

SEC. 8. That the Secretary of Commerce and Labor shall . . . also from time to time make such special investigations and reports as he may be required to do by the President, or by either House of Congress, or which he himself may deem necessary and urgent.

* * * *

SEC. 12. That the President be, and he is hereby, authorized, by order in writing, to transfer at any time the whole or any part of any office, bureau, division or other branch of the public service engaged in statistical or scientific work, from the Department of State, the Department of the Treasury, the Department of War, the Department of Justice, the Post-Office Department, the Department of the Navy or the Department of the Interior, to the Department of Commerce and Labor; . . .

¹⁰ “. . . the Department of Commerce and Labor shall hereafter be called the Department of Commerce, and the Secretary thereof shall be called the Secretary of Commerce, and the Act creating the said Department of Commerce and Labor is hereby amended accordingly.”—Act of March 4, 1913, “To create a Department of Labor,” 37 Stat. L. 736.

1913—Act of March 4, 1913 (37 Stat. L., 736)—An Act To create a Department of Labor.

[SECTION 1] . . . the Department of Commerce and Labor shall hereafter be called the Department of Commerce, and the Secretary thereof shall be called the Secretary of Commerce, and the Act creating the said Department of Commerce and Labor is hereby amended accordingly. . . .

1916—Act of May 10, 1916 (39 Stat. L., 66, 110)—An Act Making appropriations for the legislative, executive, and judicial expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and seventeen, and for other purposes.

* * * *

. . . That hereafter there shall be in the official organization of the bureau a separate, distinct, and independent division called the Division of Cotton and Tobacco Statistics: . . .¹¹

1916—Act of August 7, 1916 (39 Stat. L., 436)—An Act Authorizing the Director of the Census to collect and publish statistics of cotton seed and cottonseed products, and for other purposes.

[SECTION 1]. That the Director of the Census be, and he is hereby, authorized and directed to collect and publish monthly statistics concerning the quantity of cotton seed received at oil mills, the quantity of seed crushed in such mills, the quantity of crude cottonseed products and refined oil produced, the quantities of these products shipped out of the mills and the quantities of these products and of cotton seed on hand, the quantities of crude and refined cottonseed oil held by refiners, by manufacturers of compound lard, butterine, oleomargarine, and soap, and by brokers, exporters, and warehousemen, engaged in handling crude and refined cottonseed oil, and the quantity of cotton seed and cottonseed products imported and exported: *Provided*, That the cost of the collection and publication of the statistics herein provided for shall not exceed \$10,000 per annum.

SEC. 2. That the information furnished by any individual establishment under the provisions of this Act shall be considered as strictly confidential and shall be used only for the statistical purpose for which it is supplied. Any employee of the Bureau of the Census who, without the written authority of the Director of the Census, shall publish or communicate any information given into his possession by reason of his employment under the provisions of this Act shall be guilty of a misdemeanor and shall upon conviction thereof, be fined not more than \$1,000, or imprisoned not more than one year, or both.

SEC. 3. That it shall be the duty of every owner, president, treasurer, secretary, director, or other officer or agent of any cottonseed oil mill,

¹¹ The collection of tobacco statistics was transferred to the Department of Agriculture by the act of January 14, 1929 (Public No. 661, 70th Congress).

manufacturing establishment, refinery, or warehouse, where cottonseed products are produced, manufactured, or stored, when requested by the Director of the Census or by any special agent or other employee of the Bureau of the Census acting under the instructions of said director, to furnish completely and correctly, to the best of his knowledge, all of the information concerning the quantity of cotton seed received, consumed, or on hand, and the quantity of crude and refined oil, cake and meal, hulls and linters produced, and the quantity of these products shipped and on hand. The request of the Director of the Census for information concerning the quantity of cotton seed received, consumed, and on hand, the quantity of crude oil shipped, and the quantity of crude oil consumed and stocks on hand may be made in writing or by a visiting representative, and if made in writing shall be forwarded by registered mail, and the registry receipt of the Post Office Department shall be accepted as prima facie evidence of such demand. Any owner, president, treasurer, secretary, director, or other officer or agent of any cottonseed oil or manufacturing establishment, refinery, or warehouse, where cotton seed and cottonseed products are manufactured or stored, who, under the conditions hereinbefore stated, shall refuse or willfully neglect to furnish any of the information herein provided for or shall willfully give answers that are false shall be guilty of a misdemeanor and upon conviction thereof shall be fined not more than \$1,000.

SEC. 4. That the Director of the Census be, and he is hereby authorized and directed to collect and publish statistics of raw and prepared cotton and linters, cotton waste, and hull fiber consumed in the manufacture of gun-cotton and explosives of all kinds, and of absorbent and medicated cotton, during the calendar year nineteen hundred and fifteen, and quarterly thereafter, and the quantity held in such establishments at the end of each quarter. The statistics herein provided for are in addition to those now collected in compliance with the Act of Congress approved July twenty-second, nineteen hundred and twelve, the provisions of that Act being made applicable to and governing the collection and publication of the data.

1920—Act of June 5, 1920 (41 Stat. L., 1057)—An Act Authorizing and directing the Director of the Census to collect and publish monthly statistics concerning hides, skins, and leather.

[SECTION 1]. That the Director of the Census be, and he is hereby, authorized and directed to collect and publish statistics monthly concerning—

(a) The quantities and classes of hides and skins, owned or stored, and the quantities and classes of such products disposed of during the preceding census month by packers, abattoirs, butchers, tanners, jobbers, dealers, wholesalers, importers, and exporters;

(b) The quantities and classes of hides and skins in the process of tanning or manufacture, the quantities and amount of finished product for the preceding month;

(c) The quantities and classes of leather owned or stored and manufactured during the preceding census month by tanners, jobbers, dealers, wholesalers, importers, exporters, and establishments cutting or consuming leather.

SEC. 2. That the information furnished by any individual establishment under the provisions of this Act shall be considered as strictly confidential and shall be used only for the statistical purposes for which it is supplied. Any employee of the Bureau of Census who, without the written authority of the Director of the Census, shall publish or communicate any information given into his possession by reason of his employment under the provisions of this Act shall be guilty of a misdemeanor and shall, upon conviction thereof, be fined not more than \$1,000 or imprisoned not more than one year, or both.

SEC. 3. That it shall be the duty of every owner, president, or treasurer, secretary, director, or other officer or agent of any abattoir and of any packing, tanning, jobbing, dealing, wholesaling, importing, or exporting establishment where hides and skins are stored or sold, or leather is tanned, treated, finished, or stored or any establishment is engaged in the cutting of leather or in the production of boots and shoes, gloves, saddlery, harness, or other manufactures of leather goods, wherever leather is consumed, when requested by the Director of the Census or by any special agent or other employee of the Census Office acting under the instructions of said director to furnish completely and accurately to the best of his knowledge, all the information authorized to be collected by section 1 of this Act. The demand of the Director of the Census for such information shall be made in writing or by a visiting representative and if made in writing shall be forwarded by registered mail and the registry receipt of the Post Office Department shall be accepted as prima facie evidence of such demand. Any owner, president, treasurer, secretary, director, or other officer or agent of any establishment required to furnish information under the provisions of this Act, who under the conditions hereinbefore stated shall refuse or willfully neglect to furnish any of the information herein provided for or shall willfully give answers that are false, shall be guilty of a misdemeanor and upon conviction thereof, shall be fined not more than \$1,000.

1924—Act of April 2, 1924 (43 Stat. L., 31)—An Act Authorizing the Director of the Census to collect and publish statistics of cotton.

[SECTION 1]. That the Director of the Census be, and he is hereby, authorized and directed to collect and publish statistics concerning the amount of cotton ginned; the quantity of raw cotton consumed in manufacturing establishments of every character; the quantity of baled cotton on hand; the number of active consuming cotton spindles; the number of active spindle hours, and the quantity of cotton imported and exported, with the country of origin and destination.

SEC. 2. That the statistics of the quantity of cotton ginned shall show the quantity ginned from each crop prior to August 1, August 16, September 1, September 16, October 1, October 18, November 1, November 14, December 1, December 13, January 16, and March 1: *Provided*, That the Director of the Census may limit the canvasses of August 1 and August 16, to those sections of the cotton-growing States in which cotton has been ginned. The quantity of cotton consumed in manufacturing establishments, the quantity of baled cotton on hand, the number of active consuming cotton spindles, the number of active spindle hours, and the statistics of cotton imported and exported shall relate to each calendar month, and shall be

published as soon as possible after the close of the month. Each report published by the Bureau of the Census of the quantity ginned shall carry with it the latest available statistics concerning the quantity of cotton consumed, stocks of baled cotton on hand, the number of cotton-consuming spindles, and the quantity of cotton imported and exported.

All of these publications containing statistics of cotton shall be mailed by the Director of the Census to all cotton ginneries, cotton manufacturers, and cotton warehousemen, and to all daily newspapers throughout the United States. The Director of the Census shall furnish to the Department of Agriculture, immediately prior to the publication of each report of that bureau regarding the cotton crop, the latest available statistics hereinbefore mentioned, and the said Department of Agriculture shall publish the same in connection with each of its reports concerning cotton.

SEC. 3. That the information furnished by any individual establishment under the provisions of this Act shall be considered as strictly confidential and shall be used only for the statistical purpose for which it is supplied. Any employee of the Bureau of the Census who, without the written authority of the Director of the Census, shall publish or communicate any information given into his possession by reason of his employment under the provisions of this Act shall be guilty of a misdemeanor and shall, upon conviction thereof, be fined not less than \$300 or more than \$1,000 or imprisoned for a period of not exceeding one year, or both so fined and imprisoned, at the discretion of the court.

SEC. 4. That it shall be the duty of every owner, president, treasurer, secretary, director, or other officer or agent of any cotton gin, manufacturing establishment, warehouse, or other place where cotton is ginned, manufactured, or stored, whether conducted as a corporation, firm, limited partnership, or by individuals, when requested by the Director of the Census or by any special agent or other employee of the Bureau of the Census acting under the instructions of said director, to furnish completely and correctly, to the best of his knowledge, all of the information concerning the quantity of cotton ginned, consumed, or on hand, and the number of cotton-consuming spindles, and active spindle hours. The request of the Director of the Census for information concerning the quantity of cotton ginned or consumed, stocks of cotton on hand, and number of spindles and spindle hours may be made in writing or by a visiting representative, and if made in writing shall be forwarded by registered mail, and the registry receipt of the Post Office Department shall be accepted as evidence of such demand. Any owner, president, treasurer, secretary, director, or other officer or agent of any cotton gin, manufacturing establishment, warehouse, or other place where cotton is ginned or stored, who, under the conditions hereinbefore stated, shall refuse or willfully neglect to furnish any of the information herein provided for or shall willfully give answers that are false shall be guilty of a misdemeanor and, upon conviction thereof, shall be fined not less than \$300 or more than \$1,000 or imprisoned for a period of not exceeding one year, or both so fined and imprisoned, at the discretion of the court.

SEC. 5. That in addition to the information regarding cotton in the United States hereinbefore provided for, the Director of the Census shall compile, by correspondence or the use of published reports and documents, any available information concerning the production, consumption, and stocks of cotton in foreign countries, and the number of cotton-consuming

spindles in such countries. Each report published by the Bureau of the Census regarding cotton shall contain an abstract of the latest available information obtained under the provisions of this section, and the Director of the Census shall furnish the same to the Department of Agriculture for publication in connection with the reports of that department concerning cotton in the same manner as in the case of statistics relating to the United States.

SEC. 6. That the reports of cotton ginned to the dates as of which the Department of Agriculture is also required to issue cotton crop reports shall be issued simultaneously with the cotton crop reports of that department, the two reports to be issued from the same place at eleven o'clock antemeridian on the eighth day following that on which the respective reports relate. When such date of release falls on Sunday or a legal holiday the reports shall be issued at eleven o'clock antemeridian on the next succeeding workday.

SEC. 7. That the Act of Congress authorizing the Director of the Census to collect and publish statistics of cotton, approved July 22, 1912, and all other laws and parts of laws inconsistent with the provisions of this Act are hereby repealed.

1925—Act of March 3, 1925 (43 Stat. L., 1105)—An Act To amend the Printing Act approved January 12, 1895, by discontinuing the printing of certain Government publications, and for other purposes.

* * * *

SEC. 2. (a) That the Director of the Census shall cause to be compiled, edited, indexed and published, on or before the first Monday in October of each year an Official Register of the United States which shall contain a full and complete list of all persons occupying administrative and supervisory positions in each executive and judicial department of the Government, including the District of Columbia, in connection with which salaries are paid from the Treasury of the United States. The Register shall show the name; official title; salary, compensation and emoluments; legal residence and place of employment for each person listed therein: *Provided however*, That the Official Register shall not contain the name of any postmaster, assistant postmaster or officer of the Army, Navy and Marine Corps.

(b) To enable the Director of the Census to compile and publish the Official Register of the United States, the Executive Office, the judiciary, the Commissioners of the District of Columbia, and the head of each executive department, independent office, establishment and commission of the Government shall, as of the 1st day of July of each year, supply to the Director of the Census the data required by this section, upon forms approved and furnished by him, in due time to permit the publication of the Official Register as herein provided; and no extra compensation shall be allowed to any officer, clerk, or employee of the Bureau of the Census for compiling the Official Register.

(c) Of the Official Register there shall be printed and bound a sufficient number of copies for the following distribution to be made by the Superintendent of Documents: To the President of the United States, four copies, one copy of which shall be for the library of the Executive Office; to the

Vice President of the United States, 2 copies; to each Senator, Representative, Delegate and Resident Commissioner in Congress, three copies; to the Secretary and the Sergeant at Arms of the Senate and to the Clerk, the Sergeant at Arms, and the Doorkeeper of the House, one copy each; to the library of the Senate and the House, each, not to exceed fifteen copies; to the Library of Congress, twenty-five copies, and to the Commissioners of the District of Columbia, 10 copies. The usual number of the Official Register shall not be printed.

(d) That Section 510 of the Revised Statutes of the United States, and all acts or parts of acts amendatory thereof or supplemental thereto, be, and the same are hereby, repealed.

1927—Act of February 4, 1927 (44 Stat. L., 1178, 1205)—An Act Making appropriations for the Departments of State and Justice and for the Judiciary, and for the Department of Commerce and Labor, for the fiscal year ending June 30, 1928, and for other purposes.

* * * *

. . . That temporary employees of the Bureau of the Census may be allowed leave of absence with pay at the rate of two and one-half days a month.¹²

1928—Act of February 15, 1928 (45 Stat. L., 64, 88)—An Act Making appropriations for the Departments of State and Justice and for the Judiciary, and for the Departments of Commerce and Labor, for the fiscal year ending June 30, 1929, and for other purposes.

* * * *

Salaries: For the director and other personal services in the District of Columbia in accordance with the Classification Act of 1923, \$1,010,000.

Collecting statistics: For securing information for census reports, provided for by law, semimonthly reports of cotton production, periodical reports of stocks of baled cotton in the United States and of the domestic and foreign consumption of cotton; quarterly reports of tobacco; per diem compensation of special agents and expenses of same and of detailed employees, whether employed in Washington, District of Columbia, or elsewhere; the cost of transcribing State, municipal and other records; temporary rental of quarters outside of the District of Columbia; for supervising special agents, and employment by them of such temporary service as may be necessary in collecting the statistics required by law, including \$15,000 for collecting tobacco statistics authorized by law in addition to any other fund available therefor, and including not to exceed \$5,000 for the employment by contract of personal services for the preparation of monographs on census subjects: *Provided*, That the compensation of not to exceed ten special agents provided for in this paragraph may be fixed at a rate not to exceed \$8 per day, \$875,000, of which amount not to exceed \$350,000 may be expended for personal services in the District of Columbia, including temporary employees who may be appointed under the civil-service rules at per

¹² Repeated in Appropriation Acts for fiscal years 1929 and 1930.

diem rates to be fixed by the Director of the Census without regard to the provisions of the Classification Act, for the purpose of assisting in periodical inquiries: *Provided*, That temporary employees of the Bureau of the Census may be allowed leave of absence with pay at the rate of two and one-half days a month.

Appropriations herein made for the Bureau of the Census shall be available in an amount not to exceed \$2,000 for expenses of attendance at meetings concerned with the collection of statistics, when incurred on the written authority of the Secretary of Commerce.

Tabulating machines: For constructing tabulating machines, and repairs to such machinery and other mechanical appliances, including technical, mechanical, and other service in connection therewith, whether in the District of Columbia or elsewhere, and purchase of necessary machinery and supplies, \$53,200, of which not to exceed \$45,000 may be expended for personal services in the District of Columbia.

Fifteenth Decennial Census: For salaries of employees in the District of Columbia and elsewhere, including temporary employees who may be appointed by the Director of the Census under the civil-service rules for any period not to exceed June 30, 1932, at per diem rates to be fixed by the Director of the Census without regard to the provisions of the Classification Act; traveling expenses, materials, supplies, equipment, and services, purchase and exchange of books, tabulation cards, typewriters, calculating machines, punch machines, and other office appliances, including their repair and maintenance; rent of buildings and rent and purchase of equipment outside the District of Columbia, \$110,000, of which amount not to exceed \$10,000 may be expended for personal services in the District of Columbia.

1929—Act of January 25, 1929 (45 Stat. L., 1094, 1119)—An Act Making appropriations for the Departments of State and Justice and for the Judiciary, and for the Departments of Commerce and Labor, for the fiscal year ending June 30, 1930, and for other purposes.

* * * *

For salaries and necessary expenses for preparing for taking, compiling, and publishing the Fifteenth Census of the United States and for carrying on during the decennial census period all other work authorized and directed by law (U. S. C., pp. 329-338, secs. 1-112), at a total cost of not to exceed \$39,490,000, including rent of office quarters in and outside the District of Columbia; salaries of employees in the District of Columbia and elsewhere, including temporary employees in the District of Columbia who may be appointed by the Director of the Census, under civil-service rules, for any period not extending beyond June 30, 1932, at rates of pay to be fixed by the Director of the Census, without regard to the Classification Act: *Provided*, That such temporary employees in the District of Columbia may be allowed leave of absence with pay at the rate of two and one-half days per month; the employment by contract of personal services for the preparation of monographs on census subjects; per diem compensation of special agents and expenses of the same and of detailed employees, whether employed in the District of Columbia or elsewhere: *Provided further*, That employees of the bureau may be paid in lieu of all transportation expenses not to exceed

7 cents per mile for the use of their own automobiles or not to exceed 3 cents per mile for the use of their own motor cycles when used for necessary travel on official business; expenses of attendance at meetings concerned with the collection of statistics, when incurred on the written authority of the Secretary of Commerce; the purchase of supplies and equipment, including books of reference, periodicals, maps, manuscripts, punch cards and materials, and other contingent expenses; the maintenance, operation, and repair of a passenger-carrying automobile to be used on official business; the purchase, rental, repair, and exchange of typewriters, calculating machines, punching, tabulating, and sorting machines, and other office appliances; the construction of punching, tabulating, and sorting machines, including technical, mechanical, and other services in connection therewith, whether in the District of Columbia or elsewhere; and printing and binding at the Government Printing Office, \$19,000,000, to continue available until June 30, 1932, of which sum \$100,000 may be immediately available: *Provided further*, That existing law shall not operate to prevent the use of such portion of this appropriation as may be necessary for the purchase of supplies, printing and binding, and other contingent expenses: *Provided further*, That the Secretary of Commerce is authorized, in his discretion, to suspend during the decennial census period such work of the Bureau of the Census, other than the Fifteenth Census, as he may deem advisable.

1929—Act of June 18, 1929 (Public No. 13, 71st Congress)—An Act To provide for the fifteenth and subsequent decennial censuses and to provide for apportionment of Representatives in Congress.

[SECTION 1]. That a census of population, agriculture, irrigation, drainage, distribution, unemployment, and mines shall be taken by the Director of the Census in the year 1930 and every ten years thereafter. The census herein provided for shall include each State, the District of Columbia, Alaska, Hawaii, and Porto Rico. A census of Guam, Samoa, and the Virgin Islands shall be taken in the same year by the respective governors of said islands and a census of the Panama Canal Zone by the Governor of the Canal Zone, all in accordance with plans prescribed or approved by the Director of the Census.

SEC. 2. That the period of three years beginning the 1st day of January in the year 1930 and every tenth year thereafter shall be known as the decennial census period, and the reports upon the inquiries provided for in said section shall be completed within such period: *Provided*, That the tabulation of total population by States as required for the apportionment of Representatives shall be completed within eight months from the beginning of the enumeration and reported by the Director of the Census to the Secretary of Commerce and by him to the President of the United States.

SEC. 3. That there may be employed in the Bureau of the Census, in addition to the force provided for by the appropriation Act for the fiscal year immediately preceding the decennial census period, two assistant directors, one of whom shall act as executive assistant to the director, performing, in addition, the duties usually assigned to the chief clerk, and the other, who must be a person of known and tried experience in statistical work, as technical and statistical advisor; these officials to be appointed by the Secretary of Commerce, upon the recommendation of the Director of the Census, in conformity with the civil service laws and rules.

In addition to the force hereinbefore provided for, there may be appointed by the Director of the Census, without regard to the provisions of the Classification Act, for any period not extending beyond the decennial census period, at rates of compensation to be fixed by him, as many temporary employees in the District of Columbia as may be necessary to meet the requirements of the work: *Provided*, That census employees who may be transferred to any such temporary positions shall not lose their permanent civil-service status by reason of such transfer: *Provided further*, That hereafter in making appointments to clerical and other positions in the executive branch of the Government in the District of Columbia or elsewhere preference shall be given to honorably discharged soldiers, sailors, and marines, and widows of such, and to the wives of injured soldiers, sailors, and marines, who themselves are not qualified, but whose wives are qualified, to hold such positions: *Provided further*, That all such temporary appointments shall be made in conformity with the civil service laws and rules: *Provided further*, That in making any appointments under this act to positions in the District of Columbia or elsewhere, preference shall be given to persons discharged under honorable conditions from the military or naval forces of the United States who served in such forces during time of war and were disabled in the line of duty, to their widows, and to their wives if the husband is not qualified to hold such positions.

That special agents, supervisors, supervisors' clerks, enumerators, and interpreters may be appointed by the Director of the Census to carry out the provisions of this Act and of the Act to provide for a permanent Census Office, approved March 6, 1902, and Acts amendatory thereof or supplemental thereto, such appointments to be made without regard to the civil service laws or the classification act of 1923, as amended, except that such special agents shall be appointed in accordance with the civil service laws." The Director of the Census may delegate to the supervisors authority to appoint enumerators. The enlisted men and officers of the Army, Navy, and Marine Corps may be appointed and compensated for the enumeration of Army, Navy, Marine, and other military posts. Employees of the Department of Commerce and other departments and independent offices of the Government may, with the consent of the head of the respective department or office, be employed and compensated for field work in connection with the Fifteenth Decennial Census. The special agents, supervisors, supervisors' clerks, enumerators, and interpreters thus appointed shall receive compensation at rates to be fixed by the Director of the Census: *Provided*, That special agents appointed at a per diem rate shall not be paid in excess of \$8 per diem except as hereinafter provided; and that the compensation on a piece-price basis may be fixed without limitation as to the amount earned per diem: *Provided further*, That during the decennial census period the Director of the Census may fix the compensation of not to exceed twenty-five special agents at an amount not to exceed \$12 per diem: *Provided further*, That permanent employees of the Census Office and special agents may be detailed, when necessary, to act as supervisors or enumerators, such permanent employees and special agents to have like authority with and perform the same duties as the supervisors or enumerators in respect to the subjects committed to them under this Act.

SEC. 4. That the fifteenth and subsequent censuses shall be restricted to inquiries relating to population, to agriculture, to irrigation, to drainage, to distribution, to unemployment, and to mines. The number, form, and

subdivision of the inquiries in the schedules used to take the census shall be determined by the Director of the Census, with the approval of the Secretary of Commerce.

SEC. 5. That each supervisor shall perform such duties as may be imposed upon him by the Director of the Census in the enforcement of this Act, and the duties thus imposed shall be performed in any and all particulars in accordance with the orders and instructions of the Director of the Census; that each enumerator or other employee detailed to serve as enumerator shall be charged with the collection in his subdivision of the facts and statistics called for on the population and agricultural schedules, and such other schedules as the Director of the Census may determine shall be used by him in connection with the census. It shall be the duty of each enumerator to visit personally each dwelling house in his subdivision, and each family therein, and each individual living out of a family in any place of abode, and by inquiry made of the head of each family, or of the member thereof deemed most competent and trustworthy, or of such individual living out of a family, to obtain each and every item of information and all particulars required for the census; and in case no person shall be found at the usual place of abode of such family, or individual living out of a family, competent to answer the inquiries, then it shall be lawful for the census employee to obtain the required information as nearly as may be practicable from the family or families or person or persons living nearest to such place of abode who may be competent to answer such inquiries.

SEC. 6. That the census of the population and of agriculture required by section 1 of this Act shall be taken as of the 1st day of April, and it shall be the duty of each enumerator to commence the enumeration of his district on the day following unless the Director of the Census in his discretion shall change the date of commencement of the enumeration in said district by reason of climatic or other conditions which would materially interfere with the proper conduct of the work; but in any event it shall be the duty of each enumerator to prepare the returns hereinbefore required to be made and to forward the same to the supervisor of his district within thirty days from the commencement of the enumeration of his district: *Provided*, That in any city having two thousand five hundred inhabitants or more under the preceding census the enumeration of the population shall be completed within two weeks from the commencement thereof.

SEC. 7. That if any person shall receive or secure to himself any fee, reward, or compensation as a consideration for the appointment or employment of any person as supervisor, enumerator, or clerk, or other employee, or shall in any way receive or secure to himself any part of the compensation paid to any supervisor, enumerator, clerk, or other employee, he shall be deemed guilty of a felony, and upon conviction thereof shall be fined not more than \$3,000 or be imprisoned not more than five years, or both.

SEC. 8. That any supervisor, supervisor's clerk, enumerator, interpreter, special agent, or other employee who, having taken and subscribed the oath of office, shall, without justifiable cause, neglect or refuse to perform the duties enjoined on him by this Act shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined not exceeding \$500; or if he shall, without the authority of the Director of the Census, publish or communicate any information coming into his possession by reason of his employment under the provision of this Act, or the Act to provide for a permanent Census Office or Acts amendatory thereof or supplemental thereto, he shall be guilty of a

felony and upon conviction thereof shall be fined not to exceed \$1,000 or be imprisoned not to exceed two years, or both so fined and imprisoned in the discretion of the court; or if he shall willfully and knowingly swear or affirm falsely as to the truth of any statement required to be made or subscribed by him under oath by or under authority of this Act or of the Act to provide for a permanent Census Office or Acts amendatory thereof or supplemental thereto, he shall be deemed guilty of perjury, and upon conviction thereof shall be fined not exceeding \$2,000 or imprisoned not exceeding five years, or both; or if he shall willfully and knowingly make a false certificate or a fictitious return he shall be guilty of a felony, and upon conviction of either of the last-named offenses he shall be fined not exceeding \$2,000 or be imprisoned not exceeding five years, or both; or if any person who is or has been an enumerator shall knowingly or willfully furnish or cause to be furnished, directly or indirectly, to the Director of the Census or to any supervisor or other employee of the census any false statement or false information with reference to any inquiry for which he was authorized and required to collect information, he shall be guilty of a felony, and upon conviction thereof shall be fined not exceeding \$2,000 or be imprisoned not exceeding five years, or both.

SEC. 9. That it shall be the duty of all persons over eighteen years of age when requested by the Director of the Census, or by any supervisor, enumerator, or special agent, or other employee of the Census Office, acting under the instructions of the said director, to answer correctly, to the best of their knowledge, all questions on the census schedules applying to themselves and to the families to which they belong or are related, and to the farm or farms of which they or their families are the occupants; and any person over eighteen years of age who, under the conditions hereinbefore stated, shall refuse or willfully neglect to answer any of these questions, shall be guilty of a misdemeanor, and upon conviction thereof shall be fined not exceeding \$100 or be imprisoned not exceeding sixty days, or both, and any such person who shall willfully give answers that are false shall be fined not exceeding \$500 or be imprisoned not exceeding one year, or both.

And it is hereby made unlawful for any individual, committee, or other organization of any kind whatsoever, to offer or render to any supervisor, supervisor's clerk, enumerator, interpreter, special agent, or other officer or employee of the Census Office engaged in making an enumeration of population, either directly or indirectly, any suggestion, advice, or assistance of any kind, with the intent or purpose of causing an inaccurate enumeration of population to be made, either as to the number of persons resident in any district or community, or in any other respect; and any individual, or any officer or member of any committee or other organization of any kind whatsoever, who directly or indirectly offers or renders any such suggestion, advice, information, or assistance, with such unlawful intent or purpose, shall be guilty of a misdemeanor, and upon conviction thereof shall be fined not exceeding \$1,000, or be imprisoned for not exceeding one year, or both.

And it shall be the duty of every owner, proprietor, manager, superintendent, or agent of a hotel, apartment house, boarding or lodging house, tenement, or other building, when requested by the Director of the Census, or by any supervisor, enumerator, special agent, or other employee of the Census Office, acting under the instructions of the said director, to furnish the names of the occupants of said hotel, apartment house, boarding or lodging house, tenement, or other building, and to give thereto free ingress and

egress therefrom to any duly accredited representative of the Census Office, so as to permit the collection of statistics for census purposes, including the proper and correct enumeration of all persons having their usual place of abode in said hotel, apartment house, boarding or lodging house, tenement, or other building; and any owner, proprietor, manager, superintendent, or agent of a hotel, apartment house, boarding or lodging house, tenement, or other building who shall refuse or willfully neglect to give such information or assistance under the conditions hereinbefore stated shall be guilty of a misdemeanor, and upon conviction thereof shall be fined not exceeding \$500.

SEC. 10. That it shall be the duty of every owner, official, agent, person in charge, or assistant to the person in charge, of any company, business, institution, establishment, religious body, or organization of any nature whatsoever, to answer completely and correctly to the best of his knowledge all questions relating to his respective company, business, institution, establishment, religious body, or other organization, or to records or statistics in his official custody, contained on any census schedule prepared by the Director of the Census under the authority of this Act, or of the Act to provide for a permanent Census Office, approved March 6, 1902, or of Acts amendatory thereof or supplemental thereto; and any person violating the provisions of this section by refusing or willfully neglecting to answer any of said questions shall be guilty of a misdemeanor, and upon conviction thereof shall be fined not exceeding \$500, or imprisoned for a period not exceeding sixty days, or both so fined and imprisoned, and any person violating the provisions of this section by willfully giving answers that are false shall be fined not exceeding \$10,000 or imprisoned for a period not exceeding one year, or both.

SEC. 11. That the information furnished under the provisions of this Act shall be used only for the statistical purposes for which it is supplied. No publication shall be made by the Census Office whereby the data furnished by any particular establishment or individual can be identified, nor shall the Director of the Census permit anyone other than the sworn employees of the Census Office to examine the individual reports.

SEC. 12. That all fines and penalties imposed by this Act may be enforced by indictment or information in any court of competent jurisdiction.

SEC. 13. That the Director of the Census is hereby authorized to make requisition upon the Public Printer for such printing as may be necessary to carry out the provisions of this Act, to wit: Blanks, schedules, circulars, pamphlets, envelopes, work sheets, and other items of miscellaneous printing; that he is further authorized to have printed by the Public Printer, in such editions as the director may deem necessary, preliminary and other census bulletins, and final reports of the results of the several investigations authorized by this Act or by the Act to establish a permanent Census Office and Acts amendatory thereof or supplemental thereto and to publish and distribute said bulletins and reports.

SEC. 14. That all mail matter, of whatever class or weight, relating to the census and addressed to the Census Office, or to any official thereof, and indorsed "Official business, Census Office," shall be transmitted free of postage, and by registered mail if necessary, and so marked: *Provided*, That if any person shall make use of such indorsement to avoid the payment of postage or registry fee on his or her private letter, package, or other matter in the mail, the person so offending shall be guilty of a misdemeanor

and subject to a fine of \$300, to be prosecuted in any court of competent jurisdiction.

SEC. 15. That the Secretary of Commerce, whenever he may deem it advisable, on request of the Director of the Census, is hereby authorized to call upon any other department or office of the Government for information pertinent to the work herein provided for.

SEC. 16. That there shall be in the year 1935, and once every ten years thereafter, a census of agriculture and livestock, which shall show the acreage of farm land, the acreage of the principal crops, and the number and value of domestic animals on the farms and ranges of the country. The schedule employed in this census shall be prepared by the Director of the Census. Such census shall be taken as of the 1st day of January and shall relate to the crop year. The Director of the Census may appoint enumerators or special agents for the purpose of this census in accordance with the provisions of the permanent census Act.

SEC. 17. That the Director of the Census be, and he is hereby, authorized and directed to collect and publish, for every second year after 1927, statistics of manufacturing industries; and the director is hereby authorized to prepare such schedules as in his judgment may be necessary.

SEC. 18. That the Director of the Census be, and he is hereby, authorized at his discretion, upon the written request of the governor of any State or Territory or of a court of record, to furnish such governor or court of record with certified copies of so much of the population or agricultural returns as may be requested, upon the payment of the actual cost of making such copies and \$1 additional for certification; and that the Director of the Census is further authorized, in his discretion, to furnish to individuals such data from the population schedules as may be desired for genealogical or other proper purposes, upon payment of the actual cost of searching the records, and \$1 for supplying a certificate; and that the Director of the Census is authorized to furnish transcripts of tables and other records and to prepare special statistical compilations for State or local officials, private concerns, or individuals upon the payment of the actual cost of such work: *Provided, however*, that in no case shall information furnished under the authority of this Act be used to the detriment of the person or persons to whom such information relates. All moneys hereafter received by the Bureau of the Census in payment for labor and materials used in furnishing transcripts of census records or special statistical compilations from such records shall be deposited to the credit of the appropriation for collecting statistics.

SEC. 19. That the Director of the Census may authorize the expenditure of necessary sums for the actual and necessary traveling expenses of the officers and employees of the Census Office, including an allowance in lieu of subsistence not exceeding \$6 per day during their necessary absence from the Census Office, or, instead of such an allowance, their actual subsistence expenses, not to exceed \$7 per day: *Provided*, That employees of the bureau may be paid in lieu of all transportation expenses not to exceed 7 cents per mile for the use of their own automobiles or not to exceed 3 cents per mile for the use of their own motor cycles when used for necessary travel on official business.

SEC. 20. For the purpose of carrying out the provisions of this Act during the fifteenth decennial census period, there is authorized to be appropriated, out of any money in the Treasury not otherwise appropriated, the sum of \$39,593,000.

SEC. 21. That the Act establishing the permanent Census Office, approved March 6, 1902, and Acts amendatory thereof and supplemental thereto, except as are herein amended, shall remain in full force. That the Act entitled "An Act to provide for the fourteenth and subsequent decennial censuses," approved March 3, 1919, and all other laws and parts of laws inconsistent with the provisions of this Act are hereby repealed.

SEC. 22. (a) On the first day, or within one week thereafter, of the second regular session of the Seventy-First Congress and of each fifth Congress thereafter, the President shall transmit to the Congress a statement showing the whole number of persons in each State, excluding Indians not taxed, as ascertained under the fifteenth and each subsequent decennial census of the population, and the number of Representatives to which each State would be entitled under an apportionment of the then existing number of Representatives made in each of the following manners :

(1) By apportioning the then existing number of Representatives among the several States according to the respective numbers of the several States as ascertained under such census, by the method used in the last preceding apportionment, no State to receive less than one Member ;

(2) By apportioning the then existing number of Representatives among the several States according to the respective numbers of the several States as ascertained under such census, by the method known as the method of major fractions, no State to receive less than one member ; and

(3) By apportioning the then existing number of Representatives among the several States according to the respective numbers of the several States as ascertained under such census, by the method known as the method of equal proportions, no State to receive less than one member.

(b) If the Congress to which the statement required by subdivision (a) of this section is transmitted fails to enact a law apportioning Representatives among the several States, then each State shall be entitled, in the second succeeding Congress and in each Congress thereafter until the taking effect of a reapportionment under this Act or subsequent statute, to the number of Representatives shown in the statement based upon the method used in the last preceding apportionment. It shall be the duty of the Clerk of the last House of Representatives forthwith to send to the executive of each State a certificate of the number of Representatives to which such State is entitled under this section. In case of a vacancy in the office of Clerk, or of his absence or inability to discharge this duty, then such duty shall devolve upon the officer who, under section 32 or 33 of the Revised Statutes, is charged with the preparation of the roll of Representatives-elect.

(c) This section shall have no force and effect in respect of the apportionment to be made under any decennial census unless the statement required by subdivision (a) of this section in respect of such census is transmitted to the Congress within the time prescribed in subdivision (a).

APPENDIX 5

FINANCIAL STATEMENTS

EXPLANATORY NOTE

Statements showing appropriations, receipts, expenditures, and other financial data for a series of years constitute the most effective single means of exhibiting the growth and development of a service. Due to the fact that Congress has adopted no uniform plan of appropriations for the several services and that the latter employ no uniform plan in respect to the recording and reporting of their receipts and expenditures, it is impossible to present data of this character according to any standard scheme of presentation. In the case of some services the administrative reports contain tables showing financial conditions and operations of the service in considerable detail; in others financial data are almost wholly lacking. Careful study has in all cases been made of such data as are available, and the effort has been made to present the results in such a form as will exhibit the financial operations of the services in the most effective way that circumstances permit.

Since the organization of the permanent Census Bureau the money for the support of the Bureau during the three years comprising the census period has been included in one appropriation which is used to defray the expenses of all activities. For other years the money is divided among three or four appropriations as shown in the table.

During the census period the expenses for printing and binding and for stationery and miscellaneous supplies are charged to the appropriation for the decennial census; in other years these expenses are charged to the appropriations made to the Office of the Secretary for the use of all bureaus of the department.

*Cost of Decennial Censuses*¹

Census	Amount
First: 1790	\$44,377.28
Second: 1800	66,109.04
Third: 1810	178,444.67
Fourth: 1820	208,525.99
Fifth: 1830	378,545.13
Sixth: 1840	833,370.95
Seventh: 1850	1,423,350.75
Eighth: 1860	1,969,376.99
Ninth: 1870	3,421,198.33
Tenth: 1880	5,790,678.40
Eleventh: 1890	11,547,127.13
Twelfth: 1900	13,516,210.00
Thirteenth: 1910	15,968,665.03
Fourteenth: 1920	25,117,000.00
Fifteenth: 1930 (limit of cost)	39,490,000.00

¹ From Wright and Hunt, History and growth of the U. S. Census, p. 915, except the last three items, which are from the House Hearings on the Fifteenth and subsequent censuses, 70 Cong. 1 sess., p. 318 (1928). The amount for 1900 includes the cost of operation of the permanent Census Bureau to the end of the fiscal year 1903. The amount for 1930 is the limit of cost set by the appropriation act for the fiscal year 1930.

BUREAU OF THE CENSUS
APPROPRIATIONS, FISCAL YEARS 1904 TO 1921, INCLUSIVE

Items	1904	1905	1906	1907	1908	1909	1910	1911	1912
Salaries	\$685,864	\$711,764	\$745,760	\$717,020	\$705,860	\$704,860	.....	.....	.....
Collecting statistics	174,000	438,400	625,000	a 250,000	b 525,000	c 355,000	.....	.....	.....
Machines	10,000	50,000	40,000	d	30,000	40,000	.....	.....	.....
Stationery	10,000	10,000	8,000	6,000	6,000	8,000	.....	.....	.....
Library	5,000	2,500	2,500	1,500	1,000	1,000	.....	.....	.....
Rent	26,600	20,600	22,080	22,080	22,080	22,080	.....	.....	.....
Miscellaneous	15,000	15,000	12,000	15,000	15,000	20,000	.....	.....	.....
Decennial census	e	f	.....	.....	.....	g 150,000	h \$10,000,000	i \$2,000,000	j \$3,000,000
Totals	\$926,460	\$1,254,260	\$1,455,340	\$1,011,600	\$1,395,940	\$1,300,940	\$10,000,000	\$2,000,000	\$3,000,000
Allotment: Printing and Binding	250,000	170,000	150,000	125,000	185,000	125,000	.....	.....	.....
Totals	\$1,176,460	\$1,424,260	\$1,605,340	\$1,136,600	\$1,490,940	\$1,425,940	\$10,000,000	\$2,000,000	\$3,000,000
Salaries	\$816,340	\$711,240	\$689,960	\$674,740	\$673,460	\$676,460	\$739,240	.....	.....
Collecting statistics	342,000	j 354,000	835,000	k 512,000	512,000	647,000	490,000	.....	.....
Machines	26,000	12,500	12,000	12,000	25,000	60,000	120,000	.....	.....
Library	500	500	500	.....	.....	.....	.....	.....	.....
Rent	22,080	22,880	17,500	.....	.....	.....	.....	.....	.....
Contingent expenses	25,000	25,000	15,367	13,731	16,366	16,666	1 33,261	.....	.....
Additional compensation .....	.....	.....	.....	.....	.....	42,683	84,140	.....	.....
Decennial census .....	.....	.....	.....	.....	.....	.....	.....	m \$17,550,000	n \$4,750,000
Totals	\$1,231,920	\$1,125,320	\$1,570,327	\$1,212,471	\$1,226,826	\$1,443,409	\$1,446,641	\$17,550,000	\$4,750,000
Allotment: Printing and binding	o 272,000	p 110,758	122,303	84,767	115,971	96,487	113,971	.....	.....
Totals	\$1,503,920	\$1,236,078	\$1,692,630	\$1,297,238	\$1,342,797	\$1,539,896	\$1,580,612	\$17,550,000	\$4,750,000

a Excludes \$149,980.67 reappropriated.

b \$150,000 available 1907.

c \$30,000 available 1908.

d \$30,931.13 reappropriated.

e \$293,442.08 reappropriated.

f \$102,445.06 reappropriated.

g Available through 1910.

h Available through 1912; for all census purposes.

i \$1,000,000 available 1911.

j Excludes \$50,000 reappropriated.

k \$1,200 available 1915.

l Includes National Security and Defense; Uniform nomenclature, \$10,000.

m \$100,000 available 1919; balance available through 1922.

n Available through 1922.

o Deficiency appropriation, Decennial census.

p Excludes \$119,916.41, reappropriated.

THE BUREAU OF THE CENSUS

APPROPRIATIONS AND EXPENDITURES, FISCAL YEARS 1922 TO 1928, INCLUSIVE; APPROPRIATIONS, FISCAL YEARS 1929 AND 1930

Items	1922		1923		1924		1925	
	Appropriation	Expenditure	Appropriation	Expenditure	Appropriation	Expenditure	Appropriation	Expenditure
Salaries .....	.....	.....	.....	\$781,307.40	\$802,340.00	\$786,857.47	\$973,000.00	\$970,692.19
Collecting statistics .....	.....	.....	.....	785,388.46	895,000.00	868,411.30	835,000.00	828,077.02
Machines .....	.....	.....	.....	39,030.71	40,340.00	34,487.23	39,470.00	39,377.96
Census of agriculture .....	.....	.....	.....	.....	173,035.56	.....	^a 3,500,000.00	3,499,522.27
Additional compensation .....	.....	.....	.....	.....	.....	.....	.....	.....
Decennial census	^b \$1,000,000.00	^b \$725,541.34	.....	173,035.56	.....	201,854.92	.....	.....
Totals	\$1,000,000.00	\$725,541.34	\$1,910,715.56	\$1,778,762.22	\$1,934,194.92	\$1,891,610.92	\$5,347,470.00	\$5,337,669.44
Allotments:	.....	.....	.....	.....	.....	.....	.....	.....
Contingent expenses .....	.....	.....	27,893.17	27,893.17	29,799.34	29,799.34	34,871.24	34,871.24
Printing and binding .....	.....	.....	99,433.33	99,433.33	114,673.74	114,673.74	145,292.53	145,292.53
Totals	\$1,000,000.00	\$725,541.34	\$2,038,942.06	\$1,906,088.72	\$2,078,668.00	\$2,036,084.00	\$5,527,633.77	\$5,517,833.21
Items	1926		1927		1928		1929	
	Appropriation	Expenditure	Appropriation	Expenditure	Appropriation	Expenditure	Appropriation	Appropriation
Salaries	\$973,000.00	\$970,569.77	\$993,000.00	\$969,405.20	\$1,000,000.00	\$900,085.83	\$1,079,690.00	.....
Collecting statistics	960,000.00	^c 947,487.04	^a 931,000.00	856,638.45	1,049,766.00	956,026.47	900,300.00	.....
Machines	41,000.00	39,148.54	50,000.00	39,635.75	60,200.00	56,000.00	55,460.00	.....
Census of agriculture	230,000.00	^c 229,800.00	.....	.....	55,000.00	50,000.00	.....	.....
Decennial census .....	.....	.....	.....	.....	.....	.....	110,000.00	\$19,000,000.00
Totals	\$2,204,000.00	\$2,187,005.35	\$1,974,000.00	\$1,865,679.40	\$2,164,960.00	\$1,962,112.30	\$2,145,450.00	\$19,000,000.00
Allotments:	.....	.....	.....	.....	.....	.....	.....	.....
Contingent expenses	30,851.54	30,851.54	32,097.64	32,097.64	32,723.15	32,723.15	33,100.00	.....
Printing and binding	111,354.92	111,354.12	117,882.18	117,882.18	125,224.44	125,224.44	114,000.00	.....
Totals	\$2,346,206.46	\$2,329,211.01	\$2,123,979.82	\$2,015,659.12	\$2,322,907.59	\$2,120,059.89	\$2,292,550.00	\$19,000,000.00

^a Available through 1926.^c To June 30, 1928; warrant basis.^b Excludes \$2,371,737.20 balance available from prior years.^a Excludes \$85,000 reappropriated.

APPENDIX 6

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EXPLANATORY NOTE

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First separate schedule for agriculture appeared in 1850. Some instructions were included in general instructions to enumerators; some appear in final volume of census reports on agricultural subjects, and others are separate pamphlets.

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These printed pamphlets are generally published separately for each census and for each subject under Division of manufactures, such as Electrical industries, Street railways, Transportation by water; Mines and quarries, etc. They range from 12 to 15 pages to 60 or 70 pages and most of them may be found at the Census bureau. In some cases, instructions may be found in the final bound volume of special reports.

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These cover General statistics, Judicial statistics, and Wealth, debt and taxation. Some one of the investigations is made annually, so that there are instructions on one subject or another for each year. They range from small pamphlets of about 20 pages to booklets of nearly 200 pages. Most of them are available at the Census bureau.

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